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To which are added,

THEIR NAMES, CLASS, ORDER, GENERIC AND SPECIFIC CHARACTERS,

ACCORDING TO THE SYSTEM OF LINNÆUS;

Their Places of Growth, Times of Flowering, and most approved Methods of Culture.

CONDUCTED

By SAMUEL CURTIS, F. L. S.

THE DESCRIPTIONS

By WILLIAM JACKSON HOOKER, L. L. D.

F. R. A. and L. S. and Regius Professor of Botany in the University of Glasgow.

VOL. III.

OF THE NEW SERIES;

Or Vol. LVI. of the whole Work.

"Soft roll your incense, Herbs, and Fruits, and Flowers,
In mingled clouds, to HIM, whose sun exalts,
Whose breath perfumes you, and whose pencil paints."

THOMSON.

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1829.

SHOUT
SHARE
IT

W. J. Hooker del.

Pub. by S. Curtis, Walworth, Jan.y 1.1829.

Swan Sc.

CALCEOLARIA CONNATA. CONNATE-LEAVED SLIPPER-WORT.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — SCROPHULARINÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* bilabiata: labium inferius calceiforme, inflatum. *Caps.* semibivalvis, valvulis bifidis.

Specific Character and Synonyms.

CALCEOLARIA *connata;* herbacea subpubescens, foliis ovatis basi attenuatis connatis, grosse dentatis, superioribus subcordatis sessilibus, bracteis cordatis integerrimis, panicula trichotoma patentissima.

CALCEOLARIA. *Hook. MSS. Graham in Edin. New Phil. Journ.* 1828, *p.* 572.

DESCR. *Root* biennial, or more probably perennial. *Stems* erect, slender and weak, rounded, pubescent, as, indeed, is the whole plant in a greater or less degree. *Leaves*, all in opposite pairs, ovate, or narrow ovate, acute, waved, nerved; the nerves much branched and reticulated, the margins very coarsely and unequally serrated, the lower ones attenuated at the base and connate, the upper ones in remote pairs, almost cordate, sessile. *Bracteæ* resembling leaves, but smaller, and quite entire. *Panicle* terminal, and smaller ones are often lateral, dichotomously divided, and much spreading, with a solitary flower in the axil, and the flowers on the branches, in the more luxuriant state, racemed. *Pedicels* slender, free from bracteæ. *Flowers* pale yellow. *Lips* of the *corolla* closely applied to each other, compressed, the upper one not much larger than the lower.

My

My first knowledge of this new species of CALCEOLARIA was derived from plants sent to us by Mr. TAITE of the Sloane Street Nursery, who raised it from seeds which he received "in 1827 along with TACSONIA * *pinnatistipula* and many other rare plants and bulbs from M. HOGAN, Esq. Consul of the United States at Valparaiso." About the same time, indeed, seeds were sent to the Glasgow Botanic Garden both by Dr. GILLIES and by Mr. CRUICKSHANKS; those from the latter gentleman were gathered near La Guardia, on the Western side of the Andes, on the route from St. Jago de Chile to Mendoza. They have all blossomed readily and abundantly during the whole of the summer and autumnal months, on a cool shelf of the greenhouse, and promise to have perennial roots, though the stems are very slender and herbaceous.

The dried specimens sent me by Mr. CRUICKSHANKS have much larger panicles of racemes than what are here represented; so that, another season, when the plants become stronger, we may expect to see, in this species, one most highly deserving of cultivation.

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* This has flourished in the Sloane Street Nursery, planted in the open ground.

Fig. 1. Lower Leaf, to show the connate base; *nat. size.* 2. Flower, with the lower Lip forced down. 3. Stamen.—*Magnified.*

W.J.H. delt.

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Swan.

BRODIÆA GRANDIFLORA. LARGE-FLOWERED BRODIÆA.

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Class and Order.

TRIANDRIA MONOGYNIA.

(Nat. Ord. — HEMEROCALLIDEÆ.)

Generic Character.

Perianthium tubulosum, sex-fidum, persistens; *Squamæ* tres ad faucem (stamina abortiva) staminibus alternantes. *Stylus* filiformis. *Stigma* trifidum. *Capsula* obovata, basi in stipitem attenuata, 3-locularis, polysperma.

Specific Character and Synonyms.

BRODIÆA * *grandiflora;* pedunculis umbellatis bracteas longe excedentibus, squamis lanceolatis obtusissimis integris.

BRODIÆA grandiflora. *Smith in Linn. Trans. v.* 10. *p.* 2. *Spreng. Syst. Veget. v.* 1. *p.* 169. *Bot. Reg. t.* 1183. (not of Pursh, nor of Nuttall.)

BRODIÆA coronaria. *Salisb. in Par. Lond. t.* 98.

DESCR. *Root* a small, roundish, solid, wrinkled *bulb*, from the top of which, and surrounded by a few membranous scales below, spring two or more linear, acuminated, very slender *leaves*, grooved on the inside. *Scape* about as long

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* "A plant of the Liliaceous, or Patrician Order, which I have named after JAMES BRODIE, Esq. F. L. S. of Brodie, in North Britain, a gentleman, whose scientific merits, whose various discoveries, and whose liberal communications on every occasion, tending to elucidate the Botany of his own country in particular, require no elaborate display before the Linnean Society."—SMITH, *in Linn. Trans. v.* 10.

long as the leaves, erect, terete, terminated by a bracteated *Umbel* of from six to eight very handsome flowers. *Bracteæ* small, soon becoming membranous and withered. *Peduncles* an inch and a half long, and about equal in length with the flower, spreading. *Perianth* tubular below, where it is green, with six elevated brown lines, upwards expanding into six spreading, lanceolate, bright purplish-blue segments. The *throat* or *faux* has three *stamens*, whose *anthers* are oblong, yellow, opening at the sides, and the filaments winged and short; and alternating with these are three lanceolate, or rather linear-oblong, very obtuse, white and entire, somewhat fleshy *scales*, or abortive anthers; their bases unite with the bases of the filaments, which thus, to a certain degree, are monadelphous. *Pollen* of the anthers oblong, diaphanous. *Germen* obovate, attenuated at the base into a stalk, three-lobed upwards: *Style* filiform, not reaching beyond the stamens, white: *Stigma* trifid.

A beautiful plant, and well worthy of bearing the name of so great a patron of Botany as the late James Brodie, Esq. It was first found by Mr. Menzies in 1792, in New Georgia, on the North-west coast of America, and recently by Mr. Douglas and Dr. Scouler at Puget, Fort Vancouver, and throughout the dry plains West of the Rocky Mountains. By the former of these travellers, bulbs have been introduced to the gardens of the Horticultural Society, which flourished, and blossomed in July, 1828, planted in the open border, and in a peat soil.

Mr. Douglas has examined the Missouri Hyacinth of Lewis, which is the authority for Pursh's and Nuttall's Brodiæa *grandiflora*, and clearly ascertained it to be a very distinct plant, having six perfect stamens. Beautiful specimens of this plant, gathered also by Mr. Douglas, prove, that it is a new species of Millea of Cavanilles, and scarcely differing from Brodiæa, but in the presence of six perfect stamens. Still a third genus allied to them is in Mr. Douglas's rich collection, having six stamens, placed in two rows, three higher up on the perianth and large, and three lower down and small: and by no means monadelphous.

Fig. 1. Flower, two of the Segments being cut away to show the position of the Stamens and Scales. 2. Flower cut open. 3. Back view of a Stamen. 4. Front view of ditto.—*Magnified.*

W. J. H. del.

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Swan Sc

BRASSAVOLA TUBERCULATA. TUBERCULATED BRASSAVOLA.

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yellow towards the base, the margin quite entire. *Column* short, white: the margin, behind the anther, trifid, with the segments fimbriated. *Anther* hemisphærical, sunk within the margin at the top, yellowish, externally finely granulated; within having eight distinct cells in two rows. *Pollen Masses* eight, large, ovate, compressed, attached in pairs to the two opposite extremities of two elastic, flattened, yellow filaments, which filaments bear near the middle three or four other smaller, and apparently abortive pollen masses. *Germen* very long, terete, straight, purplish, tuberculated at the base.

Hitherto only one species has been described of this very singular Genus, which was established by Mr. Brown upon the Cymbidium *cucullatum* of Swartz and Willdenow, the Epidendrum *cucullatum* of Botanical Magazine, t. 543. The present, although the same in the structure of the leaves, differs remarkably in the form of the labellum, and in the want of the fringe.

A native of the trunks of trees, in rocky places, at the entrance of Botafogo Bay, where it was found by Henry Harrison, Esq. and by him brought to the collection of his brother, Richard Harrison, Esq. of Aigburgh, near Liverpool. It produced its flowers in July, 1828, and we were then favored with a specimen, and a drawing from the pencil of Mrs. Arnold Harrison.

In habit, it very much resembles the only species of this curious Genus at present known (Br. *cucullata*. Brown); but it differs remarkably in the form and colour of the flower, and especially the labellum.

Fig. 1. Column. 2. Under side of the Anther, shewing the arrangement of the Pollen Masses. 3. Inside view of the Anther Case. 4. Front view of the Pollen Masses. 5. A pair of the filaments, with the Pollen Masses attached to them.—*Magnified.*

W.J.Hdel.
Pub.by S. Curtis. Walworth Jan.y 1.1829
Swan Sc.

ABRONIA MELLIFERA. HONEY-SMELLING ABRONIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord. — NYCTAGINEÆ.)

Generic Character.

Perianthium simplex subhypocrateriforme, limbo 5-partito, basi tumido angulato. *Staminum filamenta* 5, basi coalita in vaginulam hypogynam brevissimam, supra agglutinata tubo perianthii coarctato, demum libera: *Antheræ* oblongæ, inclusæ. *Germen* 1, vaginula staminifera infra cinctum, in tumida perianthii basi: *Stylus* 1. *Stigma* incrassatum. *Achenium* 1, perianthii basi quinquangulari tectum.

Specific Character and Synonym.

ABRONIA* *mellifera;* foliis ovatis subsinuatis glutinosis, floribus glabris, perianthii limbo undulato (albo).
ABRONIA mellifera. *Douglas MSS.*

DESCR. *Stem* procumbent, rounded, branched, succulent, glabrous, green, reddish at the joints, slightly glutinous. *Leaves* in opposite pairs, on long petioles, ovate, or ovato-oblong, more or less oblique, somewhat sinuated, quite free from serratures, glabrous and fleshy, glutinous, nerved. *Peduncles* axillary, solitary, four to six inches long, more viscid than the stems, terminated by a compact, dense head of white flowers, and there subtended by an involucre of lanceolato-oblong, slightly pubescent, at length reflexed *leaflets*. *Perianth* an inch long: *tube* greenish and glabrous:

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* Derived from αβρος, *pretty, delicate.*

brous ; *limb* spreading, waved. *Stamens* unequal, three longer than the other two : filaments in part agglutined to the inner tube of the perianths, but easily separated. *Style* shorter than the filament : *stigma* incrassated, villous on one side. *Achenia* obovate, enclosed within the pentangular persistent base of the perianth. *Embryo* conduplicate, enclosing within its fold, the small mass of the albumen. Douglas.

A native of Northern California, extending to N. lat. 46°. and to W. longitude 122°. near the great falls of the Colombia, where it was discovered by Mr. David Douglas. It is abundant throughout the dry sandy deserts of the interior, never growing near the shores of the sea like the two hitherto described, Abronia *umbellata* and *arenaria*. The blossoms have a powerful honey-like smell in the evening.

By Mr. Douglas it was introduced to the garden of the Horticultural Society, where it flowered in the summer of 1828. At present it is very rare : but being easy of cultivation, and thriving luxuriantly in sandy peat, it may be expected soon to form a valuable addition to our flower-borders.

Fig. 1. Flower, *nat. size*. 2. Flower, *magnified*. 3. Stamen and Pistil. 4. Pistil. 5. Anther. 6. Pollen. 7. Fruit. 8. Achenium. 9. Embryo and Albumen. 10. Embryo.—*More or less magnified.*

W. J. H. del.ᵗ Pub. by S. Curtis, Walworth, Jan.ʸ 1829. Curtis's

HORKELIA CONGESTA. TUFTED-FLOWERED HORKELIA.

Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—ROSACEÆ.)

Generic Character.

Cal. campanulatus, semidecemfidus, laciniis alternis accessoriis. *Pet.* 5, (parva, *Schlecht.*) *Stam.* 10, biseriata, calycis parietibus inserta. *Receptaculum* conicum, siccum, villosum. *Ovaria,* indefinite numerosæ. *Styli* simplices cum ovario articulati, subterminales. *Achenia* calyce inclusa. *Schlecht. in Linnæa.*

Specific Character and Synonym.

HORKELIA* *congesta;* foliis radicalibus pinnatis laciniis cuneato-oblongis apice incisis, calycis laciniis exterioribus integerrimis, petalis calyce longioribus.
HORKELIA congesta. *Douglas MSS.*

DESCR. *Plant* more or less hairy and pubescent in every part. From a perennial root rises a rounded *stem,* branched upwards, and bearing but few *leaves*. *Root-leaves* several, prostrate, pinnate with from three to seven, sometimes opposite, sometimes alternate pairs of cuneato-oblong leaflets, and an odd terminal one, more or less decurrent at the base; the apex cut into from three to five longer teeth or laciniæ: *stem-leaves* alternate, pinnatifid, with the segments linear, acute, entire. *Stipules* adnate to the base of the leafstalk, deeply laciniated, broader upon the stem, and at the forking of the upper branches, where the leaf seems to be suppressed, and

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* In compliment to JOHN HORKEL, Professor of Physiology, in Berlin.

and the bracteæ take the place of stipules. *Flowers* collected into dense, terminal heads, which have two such bracteæ as I have just described immediately at their base. *Pedicels* short, branched. *Calyx* campanulate, marked with ten striæ, with five large and (placed a little below their sinus externally,) five small, spreading, lanceolate teeth, green, sometimes tipped with brown. *Petals* much longer than the calyx, inserted in the sinus of the large teeth or segments, and opposite the smaller ones, white, rounded, with a long, yellowish claw. *Stamens* ten, inserted a little below the mouth of the tube; five larger, opposite the large segments of the calyx; five smaller opposite to the petals. *Anthers* two-celled, rounded, yellow. *Filaments* inversely cuneate, with an elevated, longitudinal line in the front, white. *Receptacle* of the pistils conical, rather fleshy, and having a few scattered hairs. *Germens* roundish-oval, green. *Style* filiform, yellow, incrassated at the base, where it is jointed upon the germen a little below the summit. *Stigma* obtuse.

This new genus of plants has lately been established by Chamisso and Schlechtendal in the second volume of the "Linnæa," upon the species found during the late Russian Voyage of Discovery, at San Francisco, in California. I have now the satisfaction of publishing a second species of the genus, detected by Mr. Douglas at Cape Mendocena, and on the low hills of the Umptqua River upon the North-west coast of America. From specimens kindly communicated by the Horticultural Society of London, which flowered in August 1828, from seeds brought home by Mr. Douglas, the accompanying figure was made.

It is a hardy perennial, allied to the genus Sibbaldia, but differing in various particulars. It varies much in the shape of the pinnæ of the leaves.

Fig. 1. Single Flower. 2. Portion of the Flower, to show the insertion of the Stamens, &c. 3. Pistils. 4. Receptacle of ditto. 5. Single Pistil.—*Magnified.*

ELICHRYSUM INCANUM. HOARY-LEAVED ELICHRYSUM.

Class and Order.

SYNGENESIA POLYGAMIA SUPERFLUA.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Involucrum imbricatum, squamis internis scariosis radiantibus. *Pappus* plumosus. *Receptaculum* nudum.

Specific Character.

ELICHRYSUM* *incanum ;* incano-tomentosum, foliis longe linearibus acutis basi attenuatis, caulinis remotis superne sensim minoribus, caule simplici unifloro (squamis albis rubrisque).

DESCR. Apparently an herbaceous plant, producing an unbranched *stem*, which is erect, waved, terete, and as well as the leaves clothed with a soft, white tomentum, which gives the plant a hoary appearance. *Leaves* mostly radical, the lowermost soon withering and persistent, four to six inches long, linear, acute, much tapering at the base, slightly channelled above, beneath having a prominent midrib :— the *cauline* leaves are remote, and gradually smaller upwards. *Flower* terminal, large, solitary. *Scales* of the involucre numerous, beautiful, spreading in sunny, warm weather; the outermost silvery-white, the intermediate ones, which

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* From ελιξ, spiral or twining, or ελειος, marshy, according to SMITH, and χρυσος, *gold ;* that is, a golden-coloured flower, whose stems are twining, or which inhabits marshy places. Both characters, indeed, at variance with what we know of the individuals of this genus. It is not known to what plant the ελιχρυσος, of the older Greek Authors was applied.

which are the largest, tipped with red, the innermost pale yellow or cream-coloured; all of them elliptical, rather obtuse, concave, suddenly contracted into a long, narrow, green claw, which has a tuft of hairs at its top. *Florets* all tubular. I could not find that any were female or imperfect: all appeared to have both stamen and pistils, and to be five cleft, and yellow. *Pappus* yellowish, plumose. *Receptacle* plane, dotted, naked.

A very beautiful species of ELICHRYSUM of which the seeds were received from Van Dieman's Land, under the name of "*Native Amaranth.*" We have specimens likewise in the Herbarium from FRASER and other correspondents, gathered in the interior of New Holland. It differs from all the described species of the genus, by its long, narrow, and distinctly, on both sides, hoary leaves.

Its flowers are produced in May, and, as may be expected from their nature, they continue a long time in flower; opening and closing many times in the day, according to the temperature and force of the sun's rays.

Fig. 1. Inner Scale of the Involucre. 2. One of the larger coloured Scales. 3. Flower. 4. A Hair of the Pappus.—*Magnified.*

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VESICARIA ARCTICA. ARCTIC VESICARIA.

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Class and Order.

TETRADYNAMIA SILICULOSA.

(Nat. Ord. — CRUCIFERÆ.)

Generic Character.

Silicula inflata, subglobosa, polysperma. *Cotyledones* accumbentes. BR.

Specific Character and Synonyms.

VESICARIA* *arctica;* tota stellatim pilosa tomentosa incana, foliis radicalibus spathulatis, siliculis orbiculatis stylo longioribus.

VESICARIA arctica. *Rich. in Frankl. Journ. App. p. 743. De Cand. Prodr. v. 1. p. 159. Spreng. Syst. Veget. v. 2. p. 872. Hook. in Parry's 2d Voy. App. p. 388.*

ALYSSUM arcticum. *Fl. Dan. t. 1520. De Cand. Syst. Veget. v. 2. p. 324.*

DESCR. *Root* perennial, subfusiform, long, woody, here and there fibrous; bearing at the top many decumbent, simple, scarcely fruticose, slender *stems*. *Leaves* mostly radical, and spreading on the ground, spathulate, from two to three inches long, including the footstalk, somewhat thick and fleshy, destitute of nerve, clothed on both sides, as well as the stems and calyx, with minute, fringed scales or tufts of beautifully stellated hairs, which are white, and give to the whole plant a hoary or frosted appearance: *stem-leaves* four, linear-spathulate, alternate, sometimes quite linear. *Corymbs* terminal, of few flowers, which are bright yellow.

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* From *vesica*, a *bladder*, on account of the peculiar shape of the seed-vessels.

yellow. *Pedicels* rather long, slender, hoary. *Calyx* of four, equal, ovate, concave leaflets. *Corolla* of four, obovato-oblong, slightly clawed, veiny petals, twice the length of the calyx. *Stamens* yellow: *Anther* ovate: *Pistil: Germen* elliptical, stellato-pubescent, tipped with a columnar *style*, scarcely its own length. *Stigma* capitate, minutely glandular. *Pouch* nearly globular, slightly compressed at the dissepiment, inflated, sparingly clothed with stellated pubescence: tipped with the persistent style and stigma. *Seeds*, six in each cell, brown, orbicular and compressed. *Dissepiment* very thin and membranaceous, pure white. *Embryo* green, with the radicle applied to the edges of the Cotyledons.

This species of VESICARIA was first discovered by Professor GIESEKE, at Omenak in Greenland, and figured in the Flora Danica as ALYSSUM *arcticum*. Dr. RICHARDSON detected it in Arctic America, in lat. 67°, and gave an excellent description of it in the Appendix to Capt. FRANKLIN's Journal; rightly referring it to the genus VESICARIA. Again, Mr. DRUMMOND, during Capt. FRANKLIN's second Journey, found it abundantly upon the Rocky Mountains.

From seeds, gathered by Mr. DRUMMOND, and presented, together with many others by Captain FRANKLIN and Dr. RICHARDSON to the Glasgow Botanic Garden, plants were raised, which blossomed during the same year in which they were sown, in the months of August and September. The flowers are of a bright and vivid yellow, and appear in succession for a considerable length of time; so that it is a most desirable plant for rock-work.

Fig. 1. Flower. 2. Petal. 3. Shorter Stamen, posterior view. 4. Longer ditto, anterior view. 4. Pistil. 6. Pouch. 7. The same, the Valves having parted from the Dissepiment. 8. Embryo. 9. Portion of a Leaf, to show the stellated Scales.—All more or less *magnified*.

W.J.Hdel.

Pub. by S. Curtis, Walworth, Jan.ʸ 1.1829.

GILIA INCONSPICUA. SMALL-FLOWERED GILIA.

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—POLEMONIACEÆ.)

Generic Character.

Cal. campanulatus, 5-fidus. *Cor.* infundibuliformis vel hypocrateriformis, quinquefida. *Stamina* fauci inserta. *Stigma* trifidum. *Capsula* 3-locularis, 3-valvis, loculis mono- di- polysperma.

Specific Character and Synonyms.

GILIA* *inconspicua ;* caule ramosissimo calycibusque pubescenti-glandulosis, foliis pinnatifidis inferioribus bipinnatifidis, segmentis linearibus.

GILIA inconspicua. *Douglas MSS.*

GILIA parviflora. *Spreng. Syst. Veget. v.* 1. *p.* 626.

IPOMOPSIS inconspicua. *Smith Exot. Fl. t.* 14.

CANTUA parviflora. *Pursh Fl. Am. Sept. v.* 2. *p.* 730. *Suppl. p.* 730.

DESCR. An annual, much branching *plant,* with rounded *stems,* glanduloso-pubescent upwards. *Leaves* one or two inches long, those of the root bipinnatifid, becoming less compound upwards, so that the cauline ones are simply pinnatifid, and the uppermost, especially those that may be considered *bracteæ,* undivided: the laciniæ linear, acute, entire. *Flowers,* some few of them lateral and solitary, the rest

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* So named by CAVANILLES in honour of PHILIPPA SALVADOR GILIO, a Spanish Botanist, who wrote on the plants of Peru, and a history of the kingdom of Terra Firma, in America.

rest forming a sort of terminal panicle. *Pedicels* glandular. *Calyx* tubular, quinquefid, glandular, the segments erect, brown, with white margins. *Corolla* hypocrateriform: the tube a little longer than the calyx, nearly white; *limb* of five, patent, ovate, bright-blue, segments. *Stamens* inserted within the mouth of the tube, and scarcely exserted. *Anthers* pale blue. *Germen* oval, with three longitudinal furrows. *Style* as long as the tube of the corolla. *Stigmas* three, filiform, hairy. *Capsule* elliptical, with three deep furrows, indicating three lobes, enclosed within the persistent calyx, and equal in length with it, bursting by the centre of each lobe, into three valves, three celled; *cells* with seven to eight angular, but not winged, *seeds* in each, arranged in two rows.

Of the authors who have hitherto described this plant, Smith alone has seen specimens which were cultivated at Sion House, in 1793, from seed which he supposed to be brought from some part of America. Pursh imagined it to be a native of America: but it was reserved for the indefatigable Mr. Douglas to determine its exact locality. He discovered it in the woodless tracts, or sandy barrens on the Southern branches of the river Columbia, on the North-west coast of America, growing under the shade of Purshia (*Tigarea*. Ph.) *tridentata* and some species of Artemisia.

In the garden of the Horticultural Society it thrives well, if cultivated among sandy peat, and blossoms in the early part of summer. It first flowered at Chiswick, in May, 1827.

Fig. 1. Radical Leaf. 2. Flower. 3. Stamen. 4. Pistil. 5. Section of the Fruit. 6. Ripe Fruit surrounded by the Calyx. 7. Capsule removed from the Calyx.—More or less *magnified*.

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POINCIANA REGIA. SUPERB POINCIANA.

Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—LEGUMINOSÆ. Div. IV. CÆSALPINEÆ. *D. C.*)

Generic Character.

Calycis sepala 5, inæqualia, basi in cupulam subpersistentem coalita, inferiore fornicato. *Petala* 5, stipitata, superiore difformi. *Stam.* 10, longissima, omnia fecunda, filamentis basi hirsutis. *Stylus* longissimus. *Legumen* plano-compressum, bivalve, submultiloculare, isthmis spongiosis. *Semina* obovata, compressa, endopleura in aqua gelatinosa, cotyledonibus planis, plumula ovali. *De C.*

Specific Character and Synonym.

POINCIANA * *regia;* inermis, foliis bipinnatis, pinnulis ovali-oblongis muticis, petalis longe stipitatis crenato-undulatis, superioris ungue marginibus involutis.
POINCIANA regia. *Bojer MSS.*

DESCR. A magnificent *tree,* thirty or forty feet high, having an erect *trunk,* three feet in diameter, for half its height unbranched, covered with a grey smooth bark ; the wood white ; above forming a vast cyme of alternate patent *branches,* the younger ones green spotted with white, and glabrous. The *leaves* broadly ovate in their circumscription, two feet long, very patent, abruptly bipinnate, with from eleven to eighteen pairs of *Pinnæ,* which are four inches long, horizontally patent : *pinnules* oblong, blunt

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* In honour of M. DE POINCI, a governor of the Antilles, in the middle of the Seventeenth century, who is said to have paid considerable attention to the Natural History of those islands.

blunt at each extremity, upon very short petioles, beneath paler and one nerved. Common *petiole* grooved above, inserted upon a remarkably swollen fleshy base. *Stipules* abruptly bipinnated, erect, the lower leaflets plane, like those of the true leaves, the rest subulato-setaceous, deciduous. *Flowers* in lax racemes, terminal, and from the axils of the superior leaves, bright scarlet. *Pedicels* alternate, patent, two inches and more in length, jointed at the extremity, having at the base an ovate, acute, reflexed, glabrous *bractea*. *Leaflets* of the *calyx* equal, coriaceous, acute, very patent, coloured within, and deciduous with the petals. *Petals* almost orbicular, patenti-reflexed, tapering into long claws, crenate at the margin, at the base, on the upper side veined, and above the base dashed with yellowish lines: the *upper petal* more cuneate, with the margins involute at the base, variegated and striated with red and yellow; beneath striated with these two colours: all of them and the filaments downy at the base. *Stamens* ten, shorter than the petals: *Filaments* red: *Anthers* oblong, two-celled. *Germen* linear-oblong, plane, shortly stipitate, glabrous: *Style* filiform, terminated by an obtuse *stigma*; the whole green, scarcely longer than the stamens. *Legumen* somewhat inflated, two-valved, of a rather woody texture, about four inches long, terminated by the persistent style. *Seeds* more than half an inch long, compressed, ash-coloured, streaked with brown. Bojer MSS.

Sometimes, though rarely, we have introduced in the present work plants of great beauty and rarity, which we have no hope of ever cultivating successfully. Such is not the case with the present individual, which is, however, no less remarkable for its extreme beauty than for its rarity, having been found only in Madagascar, near Foule Point, (where it is known by the name of *Tanahou*) by Professor Bojer. To that gentleman I am indebted for a magnificent drawing, of which a portion only is engraved for the present work: and this is so satisfactory in all its parts, that I have no hesitation in immediately laying it before the public. Were not the subject of such great interest, I might have been induced to wait for its blossoming in this country: for plants have been raised by Mr. Barclay at Bury Hill, from seeds sent by Mr. Telfair, and there is every reason to think they will be brought to great perfection in that well-managed establishment.

Fig. 1. A Legume, natural size. 2. A Stipule, *magnified*.

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PORTULACA GRANDIFLORA. LARGE-FLOWERED PURSLANE.

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Class and Order.

ICOSANDRIA MONOGYNIA.

(Nat. Ord. — PORTULACEÆ.)

Generic Character.

Cal. aut liber aut imo ovario adhærens, bipartitus, demum basi circumscissus et deciduus. *Pet.* 4—6, æqualia, inter se libera aut ima basi concreta, calyci inserta. *Stam.* 8–15 (v. plura,) filamentis liberis interdum ima corolla adnatis. *Ovarium* subrotundum. *Stylus* 1, apice 5—6- (9-) fidus, aut stylus nullus et stigmata 3—8 elongata. *Capsula* subglobosa, 1-locularis, medio circumscissa. *Semina* plurima placentæ (v. placentis tot stigmata) centrali affixa. *D. C.*

Specific Character.

PORTULACA * *grandiflora ;* caulibus diffusis ramosis, foliis cylindraceis acutis, axillis pilosis, floribus terminalibus congestis, petalis calyce longioribus.

DESCR. *Root* tuberous. *Stems* diffuse, branched, six to eight inches long, rounded, smooth, succulent, reddish. *Leaves* scattered, rather remote, an inch or an inch and a half long, cylindrical or terete, acute, sessile, or with a very imperfect contraction at the base, which may be considered a sort of petiole, fleshy, glaucous green, glabrous ; the axils alone have numerous long, entangled, white (deciduous ?) hairs. *Flowers* terminal, three or four in a cluster, sessile upon the top of a branch, and surrounded by

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* An ancient Latin word applied to the *Purslane*, of very doubtful origin. Some say from *portula*, a little door, because the leaves resemble a little door.

by a kind of involucre, whose leaflets resemble the cauline leaves, and are plentifully interspersed with hairs at the base. *Calyx* diphyllous, spreading, *leaflets* ovate, green, at length scariose, hairy at the point of insertion. *Corolla* large, showy, considerably longer than the calyx, orange colored, or of a very bright reddish purple. *Petals* five, united at the base, and apparently incorporated with the base of the calyx at the point of insertion of the germen. *Stamens* united with the base of the calyx and corolla, and in a slight degrée with each other, numerous: *Filaments* deep, blackish purple. *Anthers* rounded, two-celled, purplish: *pollen* bright yellow. *Pistil: Germen* superior, conical, including several upright *receptacles*, to which the seeds are attached: *Style* as long as the stamens, filiform: *Stigma* of seven to nine filiform, pubescent, at length recurved rays.

Professor De Candolle justly observes, that the Genus Portulaca is a very heterogeneous one; and its characters are certainly but imperfectly understood. I am happy, therefore, in having the opportunity of giving an analysis of what I cannot but think a new species of the Genus, and one, the beauty of whose flowers must render it a desirable inhabitant of the cool stove or greenhouse.

It was discovered by Dr. Gillies, growing in light sandy soil, in various situations between the Rio del Saladillo, or Western boundary of the Pampas, and the foot of the mountains near Mendoza. On the Western side of Rio Desaguardero plants were in great profusion, giving to the ground over which they were spread a rich purple hue, here and there marked with spots of an orange colour, from the orange-coloured variety which grew intermixed with the others.

It has some affinity with P. *pilosa*, (Bot. Reg. t. 792) but differs in the greater length of its leaves and vastly larger size of the flowers. The colour of these flowers we find to vary to that degree, that it must afford a very deceitful character for the grouping of the species of the Genus. P. *teretifolia* and P. *lanuginosa* will also rank very near our plant, but the latter is described as having small flowers, and the former, many ovate, acute, diaphanous bracteæ at the base of the flowers.

Fig. 1. Orange-flowered state of the plant. 2. Purple-flowered ditto. 3. Extremity of a Flowering Branch, from which the corolla is removed. 4. Portion of the Stamens. 5. Pistil. 6. Section of the Germen.—All but fig. 1. and 2 more or less *magnified*.

IRIS TRIPETALA. THREE-PETALED IRIS.

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Class and Order.

TRIANDRIA MONOGYNIA.

(Nat. Ord. — IRIDEÆ.)

Generic Character.

Cor. 6-partita : laciniis alternis reflexis. *Stigmata* petaliformia.

Specific Character and Synonyms.

IRIS *tripetala ;* imberbis, caule tereti foliis lineari-ensiformibus longiore, corollæ laciniis interioribus erectis minutis integris dentatisve.

IRIS tripetala. *" Walt. Fl. Carol. p. 66." Elliott Sketch. v. 1. p. 45. Roem. et Schultes Syst. Veget. v. 1. p. 480.*

IRIS tridentata. *Pursh Fl. Am. Sept. v. 1. p. 30. Roem. et Schultes Syst. Veget. v. 1. p. 468. Spreng. Syst. Veget. v. 1. p. 161.*

DESCR. *Root* "creeping" ELL. *Stem* one and a half to two feet high, terete, bearing a few *leaves* ; but most of them spring from the root and are linear, ensiform, striated, acuminated, slightly falcate : uppermost ones spathiform. *Flowers*, three or four from the extremity of the stem, each subtended by its own foliaceous *spatha*. *Peduncle* shorter than the spatha. Exterior segments of the *corolla* broadly oval, much waved, somewhat clawed, large, of a beautiful bluish purple mottled with white, and distinctly marked with deeper purple lines, the claw whitish, with yellow-brown reticulations : *inner segments* very small, linear-lanceolate, acuminated, the segments incurved, entire, or with three teeth at the extremity, the middle tooth being longer and much acuminated : the *colour* a pale purple. Divisions of

J. Hardwicke, fecit Bath.

of the *styles* purple: *stigmas* toothed, bifid and almost blue.

Communicated by DAVID FALCONER, Esq. from his collection at Carlowrie, Edinburgh, in May, 1828. It is a native of Carolina, first described by WALTER, in his Flora of that country: nor does it appear to have been known to any other Botanist except Mr. ELLIOTT, who, however, speaks of it as being very much circumscribed in its locality.

The inner segments of the corolla, I do not find to be by any means constantly three toothed. Sometimes they are quite entire.

Fig. 1. One of the Inner Segments of the Corolla.—*Magnified.*

The IRIS *lutescens* figured at tab. 2861 of the present volume being considered by Dr. GRAHAM distinct from the IRIS *lutescens* of SPRENGEL, his specific character should have been adopted in lieu of that of the author last mentioned. "I. *lutescens;* caule simplici unifloro folioso, folium inferius æquanti; flore barbato, breve pedunculato, tubo corollæ germen superanti, laciniis undulatis, crenulatis, obtusis, unguiculatis, interioribus latioribus inflexis, laciniis labii superioris stigmatis acutis, spatha erecta, excedente et valvula interiora vix inflata involvente tubum. GRAHAM *in Edin. N. Phil. Journ. No. IX. p.* 174.

W. J. Hooker del.
Pub. by S. Curtis, Walworth, July 1. 1829
Smith

ESCHSCHOLZIA CALIFORNICA. CALIFORNIAN ESCHSCHOLZIA.

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abounding in a yellowish juice. *Stems* about a foot long, terete, branched, glaucous, as is the whole plant, and bearing several distantly-placed leaves. *Leaves:* all of them on long, flat, linear footstalks, especially the *radical* ones, tripinnatifid, the segments linear, acute, the ultimate ones trifid at the point. *Peduncles* axillary and terminal, long, terete, terminating in a cup-shaped, fleshy receptacle. *Flowers* large, beautiful. *Calyx* mitriform, thin, membranaceous, acuminated at the top, separating transversely from the thickened margin of the receptacle at its base, and like the calyptra of a Moss, which it very much resembles, falling off quite entire, or with one or two short fissures, previous to the expansion of the bud. *Petals* four, spreading, inserted within the margin of the receptacle, and bearing some of the stamens upon the very short claws, obcordate, waved, and crenate or notched at the margin, of a beautiful bright yellow colour, at the base deep orange, gradually melting into the yellow. *Stamens* about thirty, partly inserted on the thickened inner margin of the receptacle, and partly accrete with the claws of the petals. *Filaments* short: *Anthers* long, linear-lanceolate, golden yellow, the cells opening longitudinally, and occupying the margins of the anthers. *Pistil* inserted at the very base of the hollow receptacle. *Germen* subcylindrical, but tapering upwards, and bearing four filiform glandular stigmas, two opposite ones shorter than the other two. A section of the germen exhibits two opposite, longitudinal, parietal, rows of seeds, placed where the sutures of the valves of the capsule will appear*. *Ovules* very numerous, but many proving abortive. *Capsule* a long, siliquiform, straight, *capsule,* generally curved after the valves have separated, attenuated at both extremities, and surrounded at the base with the persistent, cup-shaped receptacle, with ten deep sulci, the corresponding ridges forming distinct ribs; bursting, from the extremity to the base, into two equal valves, and exhibiting, attached to the margin of these valves, by means of slender

* The peculiar situation of these seeds or ovules within the germen, corresponding as to situation with the shorter, or abortive stigmas, has led Mr. Lindley (in the Bot. Register) to form a new theory of the structure of the fruit of the Cruciferæ, in which the two stigmas are, contrary to the usual structure in fruits, opposite to the receptacle of seeds (placenta): and it hence appears to him, that their fruit is "formed of four confluent pistilla, of which two are placentiferous, and furnished with stigmata, and two destitute of placentæ and stigmata, but separable, in the form of valves.

slender stalks, many globose, corrugated, dark brown, almost black *seeds*, filled with a fleshy albumen, and having an *embryo* immersed in that albumen, near the base of the seed, and with the radicle pointing to the hilum. The *cotyledons* are a little spreading, and notched at the ends.

This singular and very beautiful plant, which already constitutes one of the most lovely ornaments of our flower-borders, was discovered by Mr. Menzies in 1792, during the celebrated voyage of Capt. Vancouver, in various parts of the coast of California: but lay long in the Herbaria of various Botanists of this country, to whom its discoverer had generously distributed it, as a new Genus, allied to Chelidonium, but without any public notice being taken of it. At length, in the year 1820, it appeared in the Horæ Physicæ Berolinenses, under the name we have here adopted, as a discovery of the able Naturalists, Chamisso and Eschscholz, at St. Francisco in California, during the Russian voyage of discovery, directed by Count Romanzoff, and commanded by Kotzebue. Still it was only known from dried specimens, and it was again reserved for a Botanist of this country to introduce it to our gardens. The indefatigable Mr. Douglas gathered it abundantly on the dry sandy banks of streams, on the plains of the river Multnomah, in about 43° North latitude, and Southward to the Spanish possessions, where, as with us, it flowers from July till September; and seeds were sent to the Horticultural Society's garden, whence they have been dispersed both at home and abroad by that valuable institution.

I may observe, that specimens of the Eschscholzia were found by the Botanists Mr. Lay and Mr. Collie of Capt. Beechy's Expedition, both at Monterey and other places on the coast of California. De Candolle, in his Prodromus, not without much hesitation, places this Genus among his Calyciflorae, at the end of Loaseæ: misled, perhaps by Chamisso, who, in his first memoir on the plant, in the Horæ Phys. Berol. calls the stamens perigynous. But had he seen living plants, or had Chamisso's further observations in the "Linnæa" been then published, where this latter error is corrected, that great man would unquestionably have ranked it with Papavaraceæ: or if, as Chamisso says, "the *received Character* of Papavaraceæ will not admit the union of Eschscholzia, that Character must be amended." The cup-shaped, fleshy body into which the pistil is inserted, is, assuredly,

assuredly, nothing more than an enlarged receptacle or extremity of the flower-stalk, a tendency to which, Mr. LINDLEY remarks, is observable in CHELIDONIUM *majus* and HYPECOUM *grandiflorum*.

Fig. 1. Base of one of the Petals, to which some of the Stamens are attached. 2. Apex of an Anther. 3. Pistil inserted in the cup-shaped Receptacle, or hollowed extremity of the Peduncle. 4. Section of the Germen. 5. Ripe Capsule *(nat. size)*. 6. Seed. 7. Section of ditto. 8. Embryo.—All but fig. 5, more or less *magnified*.

W. H. Fitch

Fitch ad. & Curtis, Kalworth. Febr. 1 1850

PŒONIA ALBIFLORA, *x. rosea.* DOUBLE WHITE CHINESE PŒONY, *with Rose coloured Flowers.*

Class and Order.

POLYANDRIA DIGYNIA.

(Nat. Ord.—PŒONIACEÆ.)

Generic Character.

Cal. 5-sepalus, foliaceus, inæqualis. *Pet.* 5—10, suborbiculata. *Stam.* plurima. *Discus* carnosus, ovaria cingens. *Carpella* 2—5, grossa, stigmatibus bilamellatis crassis instructa, in folliculos capsulares conversa. *Semina* subglobosa, nitida. *D. C.*

Specific Character and Synonyms.

PŒONIA * *albiflora;* herbacea, carpellis glabris recurvatis foliorum segmentis glabris nitidis tripartitus, lobis ovato-lanceolatis. *D. C.*

PŒONIA albiflora. *Pall. Fl. Ross. v. 2. t.* 84. *De Cand. Syst. v.* 1. *p.* 392. *Prodr. v.* 1. *p.* 66. *Bot. Mag. t.* 1756.

(*x*) *rosea;* flore plenissimo, petalis roseis, *t.* 2888.

Communicated by JOSEPH SABINE, Esq. from the garden of the Horticultural Society, as a rare and new kind of PŒONY from China, and well deserving a place in the works which treat of plants that are cultivated in our gardens. As it

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* After PÆON, a physician who cured the wounds which the Gods received during the Trojan war.

it was unaccompanied with any further notes or observations, its being referred to the P. *albiflora* rests entirely upon myself. I have so done, from its general resemblance to the P. *albiflora* γ. *Whitleji* of Bot. Reg. t. 630, and still more to the P. *edulis* (a synonym to P. *albiflora*, var. *sinensis*, Bot. Mag. t. 1768.) From the former it is distinguished by its inner petals being much broader, and more entire, and from the latter, by these being of a beautiful and most delicate rose colour, little if at all inferior to that of our most favourite roses.

Pub by . Curtis Falworth Feb! 1829

ŒNOTHERA DECUMBENS. DECUMBENT SMALL-FLOWERED EVENING PRIMROSE.

Class and Order.

OCTANDRIA MONOGYNIA.

(Nat. Ord.—ONAGRARIÆ.)

Generic Character.

Cal. 4-fidus tubulosus. *Pet.* 4 calyci inserta. *Capsula* 4-locularis, 4-valvis, infera. *Semina* comosa.

Specific Character and Synonym.

ŒNOTHERA *decumbens*; caule pubescente basi decumbente, foliis lanceolatis glaucis, petalis calyce vix longioribus, stigmate globoso, capsula subcylindracea sulcata pubescente.

ŒNOTHERA decumbens. *Douglas MSS.*

DESCR. Annual. *Stem* decumbent, especially below, waved, pubescent and much branched. *Leaves* nearly sessile, alternate, lanceolate, glaucous, entire, or sometimes distantly and obscurely toothed towards the extremity. *Flowers* axillary, solitary, of a dark purple colour, small. *Calycine segments* acuminate, glabrous. *Petals* broadly obovate, waved, and irregularly notched. *Stamens* eight; four long and four short. *Anthers* oblong, white. *Stigma* deep purple, the four segments so much reflexed that the whole appears globose: it terminates a slender, white *style*. about equal in length with the stamens. *Capsule* nearly an inch long, cylindrical, a little tapering upwards, furrowed, pubescent.

This, as well as the species given at tab. 2873 of this work, from the same country, is nearly related to Œ. *purpurea*; but the present differs from it in its decumbent stem and lax, slender branches: in the capsule being less tapering and

and less deeply furrowed. The flower is smaller, the style shorter, and the stigma has the appearance, from the short, reflected segments, of a globose head. Douglas.

Detected in Northern California, where it frequents dry soils in mountain vallies, by Mr. David Douglas, who sent seeds in 1827 to the Horticultural Society, in whose Garden at Chiswick it blossomed in the same year, and seems to flourish in any kind of soil.

Fig. 1. Style and Stigma, *magnified*. 2. Capsule, *nat. size*.

W. Hooker del.

Pub. by Curtis, Kentish Town, Feb.y 1.1829

ESCALLONIA RUBRA. RED-FLOWERED ESCALLONIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—ESCALLONEÆ. *Br.*)

Generic Character.

Cal. 5-fidus, superus. *Petala* 5, et stamina, calyci inserta. *Stigma* bilobum. *Caps.* baccata (?) semi- bilocularis, placentæ binæ in quovis loculo : semina creberrima.

Specific Character and Synonyms.

ESCALLONIA * *rubra;* foliis obovato-lanceolatis acutis basi in petiolum attenuatis duplicato serratis inferne glandulosis subtus (plerumque) resinoso-punctatis, pedunculis in axillis foliorum terminalium simplicibus vel ramosis bracteatis, floribus cylindraceis.

ESCALLONIA rubra. *Pers. Syn. Pl. v.* 1. *p.* 235. *Spreng. Syst. Veget. v.* 1. *p.* 793.

STEREOXYLON rubrum. *Ruiz et Pav. Fl. Per. v.* 3. *p.* 15. *t.* 236. *f.* b.

DESCR. A *shrub*, with numerous twiggy, rounded, red *branches*, more or less pubescent, and sprinkled with pedicellated glands. *Leaves* numerous, alternate, persistent, rigid, coriaceous, obovato-lanceolate, acute, doubly serrated at the margin, attenuated at the base into a short, red petiole, and there bordered at the sides with glands, which are sometimes sessile or nearly so, sometimes pedicellated ; the surface is veined, but not very distinctly, from these veins, on the underside, there exude, from various points, minute resinous drops, most abundant on the native specimens. A tuft of young leaves springs from the axil of each of

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* After ESCALLON, a pupil of the celebrated MUTIS, as well as his companion and fellow traveller in New Spain.

of these older ones, indicative of numerous branches. In the axils of the upper leaves the peduncles appear, which, in our cultivated specimens, are single-flowered, but in the wild ones, the peduncle is branched, and bears many rather drooping flowers. Indeed, in our plant, the two small, alternate, leaf-like bracteæ, near the base of the peduncle, show a disposition to bear pedicels. *Calyx*: the lower part turbinate and adherent with the ovary, the upper part free, cup-shaped, with five acuminated, at length elongated and reflexed teeth or segments, reddish, glabrous. *Petals* five, inserted upon the calyx, spathulate, erect, and forming a tube for the greater part of their length, and, indeed, slightly cohering with the back of the anthers and the margins, just below the oval spreading or reflexed limb. Their *color* is a deep red, paler in the limb, and there, when fading, becoming brown, and distinctly marked with a few dark veins. *Stamens* inserted upon the calyx, alternately with the petals, and nearly equal to them in length: *filaments* rose colour: *Anther* oblong, yellow, opening by two longitudinal clefts. *Germen* inferior, imperfectly two-celled by means of the introflexed margins of the valves, and these latter at the extremity, have two longitudinal receptacles, which are covered with very minute ovules. *Style* filiform, purple, sheathed at the base by a large, conical, grooved, yellow, afterwards reddish gland; upwards the style is greenish, and terminated by a two-lobed, capitate stigma.

Raised from seeds, sent about two years ago by Mr. Cruickshanks from Chili, in the Botanic Garden of Liverpool, where, in September of the present year (1828) it has produced its richly-coloured blossoms: and from the structure of these, as from the form of the leaves, there can, I think, be no doubt that it is the Esc. *rubra* of Ruiz and Pavon. Our cultivated individuals, indeed, exhibit no traces of the resinous dots upon the leaves: but our native specimens in the Herbarium, sent also by Mr. Cruickshanks, show them very distinctly: so that their absence may, perhaps, be considered due to the cooler temperature to which the plants are exposed in our greenhouses. Mr. Shepherd, indeed, finds, that the plants flourish when planted in the open air; and if they can be made to bear the winter they would constitute a great ornament to our shrubberies.

I possess, in my Herbarium, a variety with white flowers: and the Esc. *glandulosa* of Smith in Rees, and Loddiges (tab. 1291) is, probably, not distinct. As far as I am able to judge from various individuals in my collection, the Genus is very liable to vary in the degree of pubescence, in the presence or absence of glands, and of the resinous dots.

Escallonia has been considered by Jussieu and most authors to belong to the Ericineæ. Mr. Brown detected its affinity with Ribes, yet seems to consider that it should constitute a distinct order, along with Anopterus and some other New Holland genera for which he proposes the name of Escallonеæ, as here adopted.

Fig. 1. Flower, with the Peduncle and Bracteæ. 2. Petal and Stamen. 3. Calyx and Pistil. 4. The same in a more advanced state. 5. Section of the Germen. 6. Leaf of the cultivated plant. 7. Leaf from a native specimen: —All more or less *magnified*.

Pub. by S. Curtis. Walworth March 1. 1829.

HIBISCUS LILIIFLORUS: *var.* hybridus. Hybrid var. of the LILY-FLOWERED HIBISCUS.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord. — MALVACEÆ.)

Generic Character.

Cal. cinctus involucello sæpius polyphyllo, rarius foliolis paucis aut inter se coalitis. *Petala* hinc non auriculata. *Stigmata* 5. *Carpella* in capsulam 5-locularem coalita, valvis intus medio septiferis, loculis polyspermis aut rarius monospermis.

Specific Character and Synonyms.

HIBISCUS * *liliiflorus;* foliis lanceolato-oblongis rariusve trifidis, involucello 5-phyllo, calyce 5-dentato, petalis extus subvelutinis. *D. C.*

HIBISCUS liliiflorus. *Cav. Diss. 3. p.* 154. *t.* 57. *f.* 1. *De Cand. Prodr. v.* 1. *p.* 446.

Var. *hybridus,* ex H. *liliifloro* et H. *Rosa-sinensi.* (TAB. CCXCI.)

DESCR. A mule *plant,* derived from H. *liliiflorus,* whose flowers were fertilized by the pollen of H. *Rosa-sinensis.* The consequence is a production, very variable, indeed, as to the size and form both of leaves and flowers, and amply deserving a place in every collection of stove plants.

The first I heard of this charming plant was from my often-mentioned friend and invaluable correspondent, CHARLES TELFAIR,

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* From ἰβισκος, an ancient Greek name, which was applied to the ALTHÆA, a plant of the same natural family with HIBISCUS, and nearly allied to it.

Telfair, Esq. of the Mauritius, to whom I am indebted for two beautiful drawings, from the pencil of Mrs. Telfair; from one of which, the engraving here given is made.

These drawings were accompanied by a letter, with the following remarks upon them. "We think a sight of these drawings may induce our excellent friend Mr. Barclay to endeavour to cultivate and vary this beautiful shrub. The variety to be artificially produced is endless, especially in the colour:—the size of the flowers too is very great, and their brilliancy and delicate shading render them objects of great interest to cultivators. With us it grows almost to a tree: and the blossoms are upon it nearly at all seasons of the year."

Plants were at the same time sent to Mr. Barclay at Bury Hill, who cultivates them most successfully, and has favoured me both with drawings and dried specimens.

Sometimes the shape of the leaves is almost exactly as in H. *Rosa-sinensis:* at other times, and that very frequently, they are trifid, or tripartite, with the segments laciniated. The flowers are deep red, buff-coloured, and more frequently of a bright and delicate rose colour. The outer calyx, or involucre of De Candolle, is always more erect than in H. *Rosa-sinensis:* but the column of fructification is not so much declined.

Fig. 1. One of the trifid Leaves.—*Nat. size.*

W. H. del.

Pub. by S. Curtis, Walworth, March 1, 1829.

BILLBERGIA CRUENTA. BLOOD-STAINED BILLBERGIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—BROMELIACEÆ.)

Generic Character.

Calyx superus. *Petala* convoluta, basi squamosa. *Stam.* basi perianthii inserta. *Stylus* filiformis. *Stigmata* linearia, convoluta. *Capsula* baccata ? *Semina* nuda. *Lindl.*

Specific Character and Synonym.

BILLBERGIA * *cruenta ;* foliis ligulatis obtusis mucronatis dentato spinosis apice (sæpissime) sanguineo-maculatis, bracteis lato-ovalibus imbricatis obtusissimis concavis, spica capitata subsessili.

BROMELIA cruenta. *Graham in Edin. Phil. Journ.*

DESCR. *Plant* probably parasitic. *Stem* short, ascending, cylindrical. *Stolons* axillary, sheathed with large, imbricated, ovate, adpressed, entire scales. *Leaves* (one and a half to two feet long, three inches broad,) numerous, imbricated, erect at their base, spreading above, linear, obtuse, mucronate, serrato-spinous, very hard and rigid, bright green and concave above, pruinose in transverse stripes and rounded below, sprinkled irregularly with blood-red stains, and marked with the same colour on the anterior surface for above half an inch at the apex, greatly dilated at their base, and forming a cup, from which water thrown upon the plant does not escape. *Spike* terminal, capitate, bracteate

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* So named by THUNBERG, in honour of GUSTAVUS JOHN BILLBERG, an excellent Swedish Botanist.

teate, but without coma, nearly sessile, and raising only its upper surface above the water which the cup formed by the leaves contains. *Bracteæ,* one on the outside of each flower, ovate, convex internally, and somewhat cucullate, broadest on the outside of the capitulum, and there longer than the calyx, shorter than it in the centre. *Flowers* expand in succession from without inwards, generally only one or two at a time, standing three-fourths of an inch above the surface of the capitulum. *Calyx* ovate, acuminate, green, glabrous, shining, segments overlapping, greatly dilated upon one side, which is scariose, transparent, and passes between the next segment and the corolla (ten and a half lines long). *Corolla* (one inch four and a half lines long) three-parted, segments subequal, unguiculate, claws white, linear, glabrous, equal in length to the calyx (two and a quarter lines broad) erect, bearing on their inside at their base large, connate, smooth, shining, colourless, nectariferous glands ; limb spreading, segments ovate, acuminate, blue, slightly striated in the centre, and paler behind and towards the edges. *Stamens* inserted at unequal heights into the claws, three into one, two into another, and one into the third; filaments flattened, similar in structure and colour to the claws of the corolla, inserted into the back of the anthers, and continued along these to their apices ; anthers projecting into the throat of the corolla, of equal length, and approximating at their apices (nearly three lines long), white, acuminate, cleft from the base for about a quarter of their length, above which they are connate along the back with the filaments ; pollen white. *Pistil* equal in height to the stamens ; stigmata three, flattened, ciliated on one edge, spirally twisted ; styles three, united throughout their whole length ; germen inferior, glabrous, three-celled ; ovulæ very numerous, small, attached to a central receptacle.

This plant was brought to the Edinburgh Botanic Garden by Captain Graham, of H. M. Packet Service from Mr. Harris, at Rio Janeiro, in 1824, and has grown freely in rich soil in the stove, pushing up three crowns from its root, only one of which has yet flowered. Graham.

Fig. 1. Flower scarcely magnified. 2. Petal, with the Stamens. 3. Pistil. 4. Section of the Germen.—*Magnified.*

Pub. by S. Curtis, Walworth, March 1, 1829

COLLOMIA LINEARIS. SMALL-FLOWERED COLLOMIA.

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord. — POLEMONIACEÆ.)

Generic Character.

Cal. obconicus, glandulosus, 5-fidus. *Cor.* subhypocrateriformis, limbo 5-fido. *Stam.* intra faucem tubi inserta, inæqualia. *Capsula* trilocularis, trivalvis, valvis obcordatis loculicido-dehiscens, axi libera, trialata loculis mono- dispermis. *Semina* mucosa. (*Flores* involucrati.)

Specific Character and Synonyms.

COLLOMIA * *parviflora;* foliis lineari-lanceolatis lato-lanceolatisve opacis plerumque glabris, ramis superioribus patentissimis pubescentibus, corollæ limbo patentibus tubo gracillimo triplo breviore.

COLLOMIA linearis. *Nutt. Gen. v.* 1. *p.* 126. *Douglas Journ. ined. Bot. Reg. t.* 1166.

DESCR. An annual, erect, much branching plant, with rounded, glabrous *stems;* the uppermost branches remarkably patent and pubescent. *Leaves* two to four or five inches long, linear lanceolate, lanceolate, or broadly lanceolate, the shorter ones almost ovate, alternate, patent, sessile, waved, entire, opaque, glabrous, the younger and upper ones only pubescent: pubescence glandular. The uppermost *leaves* form an *involucre* around the terminal, sessile, dense *heads* of *flowers*. *Calyx* large, obconical or inclining

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* From κολλα, *gluten,* in allusion to the character of the seed.

inclining to bell-shaped, glanduloso-pubescent, cut into five deep, acute, erect segments. *Corolla* more than twice the length of the whole calyx: the tube slender, enlarged upwards, yellowish-brown: *Limb* spreading horizontally, small, pale lilac-purple, its breadth not equalling one third of the length of the tube; the segments oval. *Stamens* five, inserted at unequal heights within the mouth of the tube: *Filaments* short: *Anther* rounded. *Germen* obovate, with three furrows. *Style* filiform; *Stigma* three-cleft. *Capsules* ripen abundantly, and are lodged within the enlarged husky, persistent calyces, obovate, three-lobed, three-celled, bursting longitudinally from the summit in the centre of these lobes into three obcordate, deeply grooved valves, which leave the axis or central three-winged receptacle free, to the flat sides of which are attached three *seeds*, one to each cell. These are oval, fixed by the middle, filled with a horny albumen, which encloses a cylindrical *embryo*, whose *radicle* is inferior.

This plant seems to have been first discovered by Mr. NUTTALL, near the banks of the Missouri river, about the confluence of the Shian river. Dr. RICHARDSON and Mr. DRUMMOND found it abundantly further North, to the Eastward of the Rocky Mountains, particularly plentiful about Carlton House and Cumberland House Forts: and Mr. DOUGLAS and Dr. SCOULER on dry sandy banks of the Columbia; and the former traveller observes, that it extends over an immense tract of country from Menzies Island in the Columbia, to Lake Winipeg, East of the Rocky Mountains, a distance of sixteen hundred miles, growing upon the banks of streams; and flowers from May to July. In our garden it is a hardy annual, flowering nearly the whole summer.

Introduced by Mr. DOUGLAS to the garden of the Horticultural Society.

Fig. 1. Single Flower. 2. Stamen. 3. Pistil. 4. Capsule within the Calyx. 5. Capsule in the act of bursting. 6. Seed with its Hilum. 7. Section of a Capsule from which the Seeds are removed. 8. Section of a Seed.—*Magnified.*

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COLLOMIA GRANDIFLORA. LARGE-FLOWERED COLLOMIA.

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—POLEMONIACEÆ.)

Generic Character.

Cal. obconicus, 5-fidus, glandulosus. *Cor.* subhypocrateriformis limbo 5-fido : *Stamina* intra faucem tubi inserta, inæqualia. *Capsula* trilocularis, trivalvis, valvis obcordatis, loculicido-dehiscens, axi libera trialata : loculis mono- di-spermis. *Semina* mucosa. (*Flores* involucratis.)

Specific Character and Synonym.

COLLOMIA *grandiflora;* foliis lato-lanceolatis nitidis inferioribus sæpissime serratis glabris superioribus ramisque junioribus pubescentibus, capitulis viscosis, corollæ limbo obliquo erectiusculo tubo vix breviore.

COLLOMIA grandiflora. *Douglas Journ. ined. Bot. Reg. t.* 1174.

DESCR. Annual. Much stronger in its growth than the subject of the last plate, COLLOMIA *parviflora*. The *stem* reddish purple, striated, pubescent above, the branches erect, pubescent. The *leaves* large, shining; the lower ones quite glabrous, and inciso-serrate, the upper ones entire, glanduloso-pubescent. *Heads* of *flowers* larger, few more showy. *Calyx* smaller in proportion to the size of the corolla, viscid with glandular hairs; the teeth more obtuse. *Corolla* at first yellow, when fully expanded, the limb becomes of a salmon colour, and is never spread horizontally, but stands nearly erect, with a degree of obliquity in the oval segments; its whole breadth is almost

equal

equal to the length of the tube. Some of the stamens are a little protruded. *Anthers* oblong, bluish. *Germen* ovate, surrounded by a glandular ring.

This fine new species of COLLOMIA (a genus, by the bye, which seems to me too closely allied to GILIA), which is much more worthy of cultivation than C. *parviflora*, was discovered by Mr. DOUGLAS and DR. SCOULER on the North-west coast of America, especially about the mouth of the Columbia; and it has been traced by the latter from the sea to the source of that vast river in the Rocky Mountains, which seem to be its limits to the East.

Flowers in the open border the whole summer. Introduced by the Horticultural Society in 1827.

Fig. 1. Single Flower. 2. Stamen. 3. Pistil.—*Magnified.*

Pub. by J. & A. Arch, Cornhill, March 21st 1804.

COLLOMIA HETEROPHYLLA. NARROW-LEAVED COLLOMIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—POLEMONIACEÆ.)

Generic Character.

Cal. obconicus, glandulosus, 5-fidus. *Cor.* subhypocrateriformis, limbo 5-fido. *Stam.* intra faucem tubi inserta, inæqualia. *Capsula* trilocularis, trivalvis obcordatis loculicido-dehiscens, axi libera trialata; loculis mono- di-spermis. *Semina* mucosa. (*Flores* involucrati.)

Specific Character and Synonym.

COLLOMIA *heterophylla;* pubescens, caule erecto ramoso, foliis inferioribus bipinnatifidis superne sensim magis integris, involucris omnino integris, capitulis paucifloris.
GILIA heterophylla. *Douglas Journ. ined.*

DESCR. Annual. A foot to a foot and a half high, erect, much branched. *Leaves* alternate, all petiolated: the lower ones on long petioles, and deeply and doubly pinnatifid; the segments lanceolate, rather acute, pubescent as are all the leaves and stem: upwards the leaves become gradually more and more entire, and upon shorter footstalks, till they pass into the uppermost leaves or *bracteæ* of the *involucre,* where they are oval, sessile, quite entire, or with a single tooth on one side. *Heads* sessile, of few flowers. *Calyx* campanulate, nerved with five deep segments half its length, glanduloso-pubescent. *Tube* of the *corolla* very long, slender, purplish, enlarged and yellow upwards at the faux: *Limb* of five oval, purple segments, spreading

spreading horizontally. *Stamens* wholly within the tube. *Germen* oval, three-celled, each cell having two seeds: *Style* filiform, as long as the tube of the corolla: *Stigmas* three, linear-filiform.

Introduced to the Horticultural Society's Gardens at Chiswick, by Mr. David Douglas, who, as well as Dr. Scouler, found it about Fort Vancouver, on the Columbia. Mr. Douglas afterwards ascertained it to be "a common plant on the subalpine hills of North-west America, growing in partially shaded places. It is of easy cultivation in any soil; flowering through the summer.

I have specimens in my Herbarium, which were gathered by Mr. Menzies in California, in 1792.

Mr. Douglas, in his MSS., has considered this plant to be a Gilia; and, indeed, I scarcely see how it is to be distinguished from that Genus, except in the inflorescence. If the situation of the stamens in the sinus of the segments of the corolla be characteristic of Gilia, then G. *capitata* is the only North American species with which I am acquainted. The present plant cannot, however, be separated from the Genus of the plants in the two preceding figures Collomia *linearis* and C. *grandiflora*.

Fig. 1. Flower. 2. Pistil. 3. Section of the Germen.—*Magnified.*

W J Hooker del.

Pub. by S. Curtis, Walworth, March 1, 1829

FRANKENIA PAUCIFLORA. FEW-FLOWERED FRANKENIA.

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord. — FRANKENIACEÆ.)

Generic Character.

Stylus 3-fidus, lobis oblongis, intus stigmatosis. *Capsula* 3—4 valvis, polysperma. *D. C.*

Specific Character and Synonyms.

FRANKENIA * *pauciflora;* foliis linearibus obtusis margine revolutis ramulisque et calycibus acutis canescentibus, petiolis ciliatis, caulibus erectiusculis, floribus terminalibus solitariis. *Graham.*

FRANKENIA pauciflora. *De Cand. Prodr. v.* 1. *p.* 350 ? *Graham in Edin. Phil. Journ.*

DESCR. *Stem* shrubby (one foot high), suberect, branching. *Branches* diffuse, opposite, twigs slender, round, scabrous, dichotomous. *Leaves* (half an inch long) green, scabrous, hoary or minutely tomentose, especially below, where they are paler, opposite, linear, blunt, slightly channelled at the base, reflected in the edges, middle rib prominent below. *Petiole* very short, adpressed, ciliated. *Flowers* (seven and a half lines long) solitary, terminal or in the cleft of the twigs, sessile. *Calyx* adpressed, scabrous, having also a minute tomentum as on the leaves, and in a slighter degree on

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* In honor of J. FRANCKENIUS, a Swedish Botanist, and Professor of Medicine in the University of Upsal, who died in 1633.

on the twigs, rigid, five-toothed, five-gonous, channelled, persisting, teeth acute, erect. *Corolla* five-petaled, funnel-shaped; claws linear, as long as the calyx, yellowish; laminæ obovate, scarcely as long as the claws, sharply crenated at the apex, pale rose-coloured. *Stamens* six, unequal, subexserted; filaments white, flattened; anthers large, incumbent. *Germen* small, green, ovate, glabrous, unilocular 3-valvular. *Style* filiform, 3-cleft. *Ovules* elliptical, attached to the edges of the valves.

This plant, a native of New Holland, but I am not informed of what district, was obligingly communicated to the Edinburg Botanic Garden in spring last from Kew, under the name of FRANKENIA *pauciflora*. The decidedly scabrous leaves, branches, and calyx may excite some doubt whether it be the plant to which DE CANDOLLE gives that name; but of this I know nothing, except from the short character in his Prodromus. Our specimen has been kept in the greenhouse. GRAHAM.

Fig. 1. Flower. 2. Leaf. 3. Petal. 4. Portion of the Calyx, to shew the deep angles. 5. Stamen. 6. Pistil.

W. J. Hooker del.

Pub. by S. Curtis. Walworth March 1. 1829

CALCEOLARIA POLIFOLIA. WHITE-LEAVED SLIPPER-WORT.

Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* bilabiata ; *labium* inferius inflatum, calceiforme. *Caps.* semi-bivalvis, valvulis bifidis.

Specific Character.

CALCEOLARIA *polifolia ;* suffruticosa, caulibus erectis ramosis, foliis ovatis oblongisve crenatis in petiolum attenuatis, pedunculis dichotomis, floribus rotundatis.

DESCR. Perennial. *Stem* erect, somewhat woody, rounded, a foot high, much branched, especially below, the branches opposite, every where woolly. *Leaves* opposite, in my wild specimens ovate, in the cultivated ones, oblong, attenuated at the base into a petiole, an inch long (including the petiole) obscurely nerved, hoary on both sides, but especially beneath, with a white, dense, woolly covering. The *stem* is leafless upwards, and divides into two elongated peduncles, having a pair of opposite, oblong leaves or bracteas at the base : each of them bears a *corymb* of rather small, almost globose yellow *flowers :* the *pedicels* are dichotomous, and there is one, sometimes two *flowers* in the axil. *Calyx*, as well as the pedicels, quite white with hoariness : the form quadrifid, with the segments patent. Upper lip of the corolla small, very pale yellow, the under one appressed to it, and deep yellow. *Anther* large in proportion to the size of the flower. *Pistil: Germen* roundish, ovate, dotted : *Style* filiform.

Native

Native of the Cordilleras, whence seeds were sent to the Glasgow Botanic Garden, by Mr. Cruickshanks, in 1826. It flowered for the first time in July, 1828, in a cool part of the greenhouse. Our dried specimens, from the same gentleman, were gathered below the Ojos de agua, the celebrated pass from Mendoza to St. Jago de Chili. I am indebted to the Horticultural Society of London for specimens of the same plant, gathered at Combre by their collector Mr. Macrae: and Dr. Gillies informs me, that he gathered it on la Cuesta de Zapata, the second ridge of mountains which is passed in going from St. Jago de Chili to Valparaiso, along with the C. *thyrsiflora* of Graham, hereafter to be figured.

In many points, this plant agrees with the figure and description of Calceolaria *nana* of Cavanilles, Icones, t. 443, f. 2.: but that has the leaves much longer, more obtuse, and the corolla oblong, not subglobose.

Fig. 1. Corolla, with the upper lip forced back, to shew the Stamen and Pistil. 2. Calyx, including the Pistil.—*Magnified.*

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Carica Papaya. Papaw Tree.

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Class and Order.

Diœcia Decandria.

(Nat. Ord. Insertæ sedis; an Urticeis affinis? Cucurbitaceæ. *Juss.* (non *De C.*) Passifloreæ. *Ach. Rich. in Dict. Class.* Tricoccæ. *Linn.*)

Generic Character.

Cal. (minutus) 5 dentatus. Masc. *Cor.* infundibuliformis. *Stam.* alterna breviora. Fœm. *Cor.* profunde 5-partita. *Stigmata* 5. *Pepo* polyspermus. *Sem.* membrana obvoluta. *Spreng.*

Specific Character and Synonyms.

Carica * *Papaya;* foliis palmatis 7-partitis, laciniis oblongis acutis sinuatis, intermedia 3-fida, fructibus oblongis sulcatis. *Spr.*

Carica Papaya. *Linn. Sp. Pl. p.* 1466. *Willd. Sp. Pl. v.* 2. *p.* 814. *Hort. Kew. ed.* 2. *v.* 5. *p.* 399. *Bot. Reg. t.* 459. (fœmina.) *Spreng. Syst. Veget. v.* 3. *p.* 905.

Papaya vulgaris. *Lam. Ill. t.* 821.

Papaya Carica. *Gært. de Sem v.* 2. *p.* 191. *t.* 122. *f.* 2.

Papaya fructu oblongo melonis effigie. *Trew Ehret. p.* 2. *t.* 7.

Papaja, masc. et fœmina. *Rumph. Amb. v.* 1. *p.* 147. *t.* 50.

Amba paja (masc.) *Rheede Hort. Mal. v.* 1. *p.* 21. *t.* 15. *f.* 1.

Papaja-maram. *Rheede Hort. Mal. v.* 1. *p.* 23. *t.* 15. *f.* 2.

Descr.

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* So called by Linnæus, I presume on account of its resemblance to the Common Fig (Ficus *Carica;* from Caria a province in Asia, where the tree abounded). *Papaya* is, indeed, a general name for the plant, especially in the East Indies; but Rumphius suspects, that it was originally brought from a district called *Popaya,* in Peru, and that hence that name came to be applied to it.

Descr. An upright growing, unbranched tree, with somewhat of the habit of a Palm, the foliage being large and confined to the top of the tree; every part yielding a slightly acrid and somewhat milky juice. *Stem* twelve to fourteen feet high in the stove of our garden, in the tropics attaining to a height of twenty feet and more, cylindrical, or, generally, thickened towards the base, clothed with a pale greyish, rather smooth bark, here and there marked with the scars whence the old leaves have fallen. *Leaves* spreading, often a foot in length, petiolated, heart-shaped in their circumscription, cut into seven oblong, sinuated or laciniate and almost pinnatifid, rarely entire lobes or laciniæ, acute at the points, the middle one the longest and the most divided, glabrous on both sides, dark green above, and marked with the much ramified pale veins, beneath much lighter coloured, with prominent veins. *Petiole* one to two feet long, glabrous, cylindrical.

Flowers (male) in slightly compounded racemes or panicles, springing from the axils of the leaves, several inches long. *Peduncles* and *pedicels* terete, glabrous. *Calyx* very minute, a little concave, with five very small teeth. *Corolla* infundibuliform, an inch or an inch and a half long, yellowish white, of a thickish, subcoriaceous texture, especially the tube, which is cylindrical: *limb* cut into five laciniæ, oblong, imbricating each other, as they do in the state of the bud. *Stamens* ten, inserted into the mouth of the tube, and all on the same line, five nearly sessile ones, opposite the segments, and five furnished with evident filaments, and, of course, taller. *Filaments* white, hairy, thickened upwards: *Anthers* of two, linear-oblong, channelled cells, projecting on one (in the in-) side of the extremity of the filament. *Abortive Pistil* small. *Germen* oblong: *Style* subulate: *Stigma* none. *Female Flowers*, which I have not myself had the opportunity of examining, in short, simple racemes, upon a different tree from the male, or occasionally on the same: and, indeed, according to Trew, the flowers are sometimes hermaphrodite*. *Calyx* as in the male. *Corolla* much larger than in the male, of a yellower colour, cut nearly to the base into five, oblong, moderately spreading segments, or, if we may trust the figures, pentapetalous. *Pistil*: *Germen* large, ovato-oblong, green: *Stigmas* nearly sessile, of five, radiate, cuneated

* In this case the stamens, judging from the figure, alternately smaller, as in the male, are placed at the very base of the corolla, and all are furnished with distinct filaments.

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ated and fimbriated, yellowish-green lobes. The corolla falls away, and the germen, in coming to maturity, becomes pendent: the tree, too, advancing in height, casts its lower leaves from beneath the flowers; and the fruit, constituting a large oblong-kind of *berry*, or more correctly speaking, a *pepo*, rests suspended upon the leafless part of the trunk, very much in the same way as that of the ARTOCARPUS *(Bread Tree)*. The surface, when the fruit is ripe, is a pale and rather dingy orange-yellow, obscurely furrowed, and often rough with little elevated points. The flesh is very thick, coloured, but paler than the outside; and there pass through it, longitudinally, five bundles of vessels *(cordelettes pistillaires* of AUGUSTE ST. HILAIRE). In the centre is a considerable cavity, with five longitudinal ridges; and these are thickly clothed with numerous seeds, about as large as those of CANNABIS *sativa*, roundish, compressed, almost black, but covered with a transversely wrinkled, loose, greyish, skin or arillus, and enveloped in mucus. *Albumen* fleshy. *Embryo* rather large, compressed. *Radicle* inferior.

The Genus CARICA is considered by most authors to be diœcious; and in figuring the female plant in the Botanical Register, the author takes occasion to mention, that he had not met with the flowers of the barren tree. In the stove of the Glasgow garden, we long possessed a tree, which, from the flowers I examined, being male, I imagined was of this barren kind. In a few years' time, however, this individual plant produced fruit, which came to great perfection, and the seeds of which yielded an abundant stock of young plants: and this was the case for several years in succession. Yet at the moment when I was engaged in making the analysis of the parts for the accompanying plates (in February, 1829) none but male flowers were to be found upon the tree. I have had recourse, therefore, to the figure in the Botanical Register for the representation of the female, and for thus enabling me to give all the essential parts of the fructification. These, indeed, amply serve to show that the characters are at variance with those of any hitherto established Natural Order. LINNÆUS referred it to the TRICOCCÆ (or EUPHORBIACEÆ), where JUSSIEU, in his Genera Plantarum likewise places it, though he afterwards was disposed to arrange it among the CUCURBITACEÆ, in which he has been followed by a great number of Botanists: the younger RICHARD, alone placing it amongst PASSIFLOREÆ. DE CANDOLLE has not introduced the Genus into the third volume of his Prodromus, which contains the two latter orders, and perhaps

perhaps is of the opinion expressed by Auguste St. Hilaire, in the ninth volume of the Mémoires du Museum d'Hist. Naturelle; that " instead of uniting the *Carica* to some Natural family, by employing isolated, and, consequently, systematic characters, it should be left among the Genera whose place is doubtful; and we must wait till new discoveries will enable us to connect it with other vegetables. Nevertheless, if it were absolutely desirable to give it a station in a linear series, it ought, perhaps, to be referred to the neighbourhood of the Urticeæ.

The native country of the *Papaw Tree* is almost as difficult to determine as its situation in a Natural series; writers on the East, and writers on the West Indies being equally disposed to claim it as an aboriginal of their respective countries. Willdenow gives the East Indies as the station, and speaks of it as only being *cultivated* in America. So likewise the authors of the Dict. Classique d'Hist. Nat. say, " Almost all the species are natives of South America. One only, the Carica *Papaya*, grows in India, but it is to a certain degree naturalized in America." Rumphius, however, seems to be decidedly of opinion, that it was introduced to India by the Portuguese; and Dr. Hamilton, in his learned Commentary upon the Hortus Malabaricus, published in the thirteenth volume of the Transactions of the Linnean Society, observes, that every thing he has seen induces him to believe, with Rumphius and Dr. Roxburgh, " that the tree is an exotic in India." Mr. Brown * justly argues, that a careful investigation of the geographical distribution of Genera, might often lead to a determination of the native country of plants now generally dispersed: for example, that in doubtful cases, where other arguments were equal, it would appear more probable that the plant in question should belong to that country in which all the other species of the same genus were found decidedly indigenous, than to that, where it was the only species of the Genus known to exist. Hence that learned Botanist and Philosopher infers, that the *Papaw Tree* is a native of America, there being several other decidedly distinct species, natives of that continent, while no species, except the cultivated *Papaw*, nor any plant nearly related to this singular Genus, is known to exist either in Asia or in Africa. Dr. Fleming too, has expressly said (Asiatic Researches, vol. ii. p. 161. 8vo. ed.) of the *Papaw* " this is not an indigenous tree of India, and consequently has no name in the Sanscrit language. It

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* Botany of the Congo, p. 50.

It is a native of South America and the West Indies *; whence it was brought by the Spaniards and Portuguese to the Philippines and Moluccas; and from these islands, being of very quick growth, it spread rapidly to all the other countries of India. It has long been cultivated in every quarter of Hindostan, and is in flower and in fruit during the greatest part of the year."

The *Papaw Tree* is of rapid growth. St. Pierre probably spoke from his own knowledge, when he described Virginia as having planted a seed, which, in three years' time, produced a trunk twenty feet high, with its upper part loaded with ripe fruit. It is for the sake of this fruit, mainly, that the plant is cultivated; but if the flavor were not better than that yielded by what ripened in our stove, I cannot recommend it as at all agreeable. Brown in his Natural History of Jamaica tells us, that "it has a pleasant sweetish taste, and is much liked by many people; that, while young, it is commonly used for sauce; and when boiled and mixed with lime juice and sugar, is not unlike, or much inferior to that made of real apples, for which it is commonly substituted." In the opinion of Sloane it is not a very pleasant fruit, even when helped with pepper and sugar; and the more ordinary use, he adds, of this fruit, is before it is ripe, when, as large as one's fist, it is cut into slices, soaked in water till the milky juice is out, and then boiled and eaten as turnips, or baked as apples.

The juice of the pulp, according to Descourtilz, in the Flore Medicale des Antilles, is used as a cosmetic, to remove freckles on the skin, caused by the sun; and the negroes in the French colonies employ the leaves to wash their linen instead of soap.

As a medicinal plant, the *Papaw Tree* is particularly deserving of notice. Hernandez long ago spoke of the milky juice of the unripe fruit as a powerful vermifuge; which has been confirmed by M. Charpentier Cossigni, as mentioned in the Asiatic Researches, by Dr. Fleming (vol. ii. p. 162.). A single dose, that gentleman says, is sufficient to cure the disease, however abundant the worms may be. Another French writer (Poupee Desportes) recommends the use of the powder of the seed instead of the juice.

But the most extraordinary property of the *Papaw Tree*, is that which is related, first I believe by Browne, in his Natural History of Jamaica; namely, that "water impregnated with the milky juice of this tree is thought to make all sorts of meat washed in it very tender; but eight or ten minutes steeping, it is said, will make it so soft that it will drop in pieces from the spit before it is well roasted, or turn soon to rags in the boiling." Mr. Neill mentioned this circumstance more fully in his interesting Horticultural Tour through Holland and the Netherlands; and it has repeatedly been confirmed to me by gentlemen of this country who have been long resident in the West Indies, and who speak of the employment of the juice for such a purpose as of quite general occurrence; and more, that old hogs and old poultry, which

* Sloane mentions, that there is a lesser sort of *Papaw Tree* growing wild in the woods of Jamaica, which he guesses by culture may be improved, and brought to the state in which it is now so generally known.

which are fed upon the leaves and fruit, however tough the meat they afford might otherwise be, it is thus rendered perfectly tender; and good too, if eaten as soon as killed, but that the flesh very soon passes into a state of putridity *.

Whether this power of hastening the decay of meat be attributable to the *animal matter* or *fibrine* contained in the juice of the *Papaw* or not, I will not pretend to say; but the presence of such is a fact scarcely less wonderful than the property just alluded to. Two specimens of the juice were brought from the Isle of France; in the one the juice had been evaporated to dryness, and was in the state of an extract; in the other, the juice was preserved by being mixed with an equal bulk of rum. "Both were subjected to analysis by VAUQUELIN. The first was of a yellowish-white colour, and semitransparent. Its taste was sweetish. It had no smell, and was pretty solid; but attracted moisture when kept in a damp place. The second was reddish-brown, and had the smell and *taste* of boiled beef. When the first specimen was macerated in cold water, the greatest part of it dissolved. The solution frothed with soap. The addition of nitric acid coagulated it, and rendered it white; and when boiled, it threw down abundance of white flakes. When the juice of the *Papaw* is treated with water, the greatest part dissolves; but there remains a substance insoluble, which has a greasy appearance. It softens in the air and becomes viscid, brown, and semitransparent. When thrown on burning coals it melted, let drops of grease exude, emitted the noise of meat roasting, and produced a smoke which had the odour of fat volatilized. It left behind it no residue. The substance was *fibrine*. The resemblance between the juice of the *Papaw* and animal matter is so close, that one would be tempted to suspect some imposition, were not the evidence that it is really the juice of a tree quite unquestionable †".

This *fibrine* had been supposed, previously, to belong exclusively to the animal kingdom: but it has since been found in other vegetables, especially in *Fungi*.

The plant in the Glasgow Botanic Garden has flowered at almost all seasons of the year, and bears fruit in the autumn and early winter.

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* Since the above was written, I find in the Third volume of the Transactions of the Wernerian Society a highly interesting account of the property of the juice of the *Papaw Tree*, by Dr. HOLDER, who has witnessed its effects in the island of Barbadoes, and speaks of them as known to all the inhabitants. The juice causes a separation of the muscular fibres. Nay, the very vapour of the tree serves the purpose; hence many people suspend the joints of meat, fowls, &c. in the upper part of the tree, in order to prepare them for the table. Such is the effect upon hogs that feed upon the fruit, that the good housewives reject the flesh of such, if it be destined for salting, well knowing that it is not sufficiently firm for the purpose.

† THOMSON's System of Chemistry, extracted from the Annales de Chimie, v. 43. p. 267.

TAB. 2898. Fig. 1. Tree on a very small scale. 2. Portion of a Panicle or Raceme of Male Flowers. 3. Male Flower cut open. 4. Calyx. 5. Portion of the Tube of the Corolla bearing Young Stamens, the rest being cut away. 6. and 7. Anthers. 8. Female Flowers copied from Bot. Reg.—*Magnified.*

TAB. 2899. Fig. 1. Portion of the Stem with Fruit, *nat. size.* 2. Section of ditto. 3. Seeds, *nat. size.* 4. Seeds cut open vertically, *magnified.* 5. Leaf, *nat. size.*

BEGONIA INSIGNIS. HANDSOME-FLOWERED BEGONIA.

Class and Order.

MONŒCIA POLYANDRIA.

(Nat. Ord. — BEGONIACEÆ.)

Generic Character.

MASC. *Cal.* o. *Cor.* polypetala, petalis plerumque 4, inæqualibus.

FÆM. *Cal.* o. *Cor.* petalis 4—9, plerumque inæqualibus. *Styli* tres, bifidi. *Caps.* triquetra, alata, trilocularis, polysperma,

Specific Character and Synonym.

BEGONIA *insignis;* subherbacea, caule erecto ramoso nodoso glabro, foliis longe petiolatis inæqualiter cordatis acuminatis obsolete lobatis duplicato serratis ciliatis, supra sparse strigosis subtus subrubris, stipulis lineari-triangularibus acuminatis integerrimis, pedunculis terminalibus nutantibus bis-terve dichotomis multifloris, capsulæ ala maxima acuta, reliquis obtusis. *Graham.*
BEGONIA insignis. *Graham in Edinb. New Phil. Journ. n.* 11.

DESCR. *Stem* erect, subherbaceous, entirely free from hairs, but rough and brown, swollen at the joints. *Branches* erect, smooth, shining, subpellucid, reddish, and with a few white oblong spots. *Leaves* alternate, on smooth, shining petioles, which are nearly round, and half the length of the leaves, unequally cordate, acuminate, slightly concave, pale green, and sparingly strigose above, paler green, or red, and always naked below, obscurely lobed, and doubly serrato-ciliate, crisped, especially when young. *Stipules* linear-triangular, narrow, acuminate, entire in the edge, pellucid, and nearly colourless, submarcescent. *Peduncles* terminal, twice or thrice dichotomous, nodding. *Bracteas* cordato-ovate,

ovate, keeled, reflected at the sides, a pair being placed at each bifurcation of the peduncle, caducous. *Flowers* monœcious, large, rose-coloured, very handsome. *Male:* one standing in each bifurcation, on a peduncle above two inches long, and having in the ultimate division a female flower on each side, unless, as is not unfrequent, one of the females proves abortive; *corolla* tetrapetalous, two of the petals large (three-fourths of an inch in either diameter), cordato-subrotund, and slightly pointed, the two others nearly as long, but much narrower, spathulate; *stamens* about forty, yellow, monadelphous; anthers bilobular, wedge-shaped, somewhat flattened; pollen yellow. *Female: corolla* smaller than in the male, generally of five, obovate, somewhat irregular, unequal petals, occasionally only four; *style* greenish-yellow, stout, three-parted, diverging, enlarging and flattened towards the *stigmata*, which are large, revolute, glandular, each with two ascending angles, bright yellow; germen pale green, with three very unequal wings, the largest acute, the second rounded, the smallest obtuse angled, trilocular, placentæ double in each loculament, waved, extending from the central column, to which they are attached, to the angles, throughout the whole length of the capsule, and every where densely covered with minute ovules. The male flowers expand first, and one of the females before the other, on the same division of the peduncle.

We received a plant of this beautiful species from the Botanic Garden, Berlin, in spring last, under the name of Begonia *ciliata*, but it differs entirely from the description of that species by Kunth, and I think from every other which is recorded. Its foliage is not equal to B. *argyrostigma*, nor the appearance of its stem to B. *dipetala*, but it surpasses these and perhaps every other cultivated species in the gracefully drooping clusters of its large, bright-rose-coloured flowers. It adds greatly to its value that it flowered most freely in the stove during December. I regret that I cannot state from what country it was introduced into Europe. Graham.

Fig. 1. Male Flower. 2. Female Flower, slightly *magnified*.

AZALEA LEDIFOLIA. FRAGRANT INDIAN AZALEA.

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—RHODODENDREÆ.)

Generic Character.

Cal. 5-dentatus. *Cor.* infundibuliformis limbo 5-fido. *Stamina* receptaculo inserta. *Caps.* 3—5-locularis, valvis dissepimentum formantibus. *Sem.* nuda.

Specific Character and Synonyms.

AZALEA* *ledifolia;* floribus ternis, calyce erecto glanduloso-viscido, staminibus sensum curvatis.

AZALEA indica, *alba. Bot. Reg. t.* 811.

JEDOGAVA TSUTSUSI, celebris per Japoniam Citisus urbis Jedogava, surculis hirsutis. Datûr alia flore albo, alia incarnato, alia purpureo. *Kæmpf. Amœnit. Exot. p.*.848.

DESCR. An erect, much branching, but rather stunted *shrub,* two to three feet high; the *branches* often whorled, straight, every where clothed with rigid, patent, brown hairs, the foliage is confined principally to the extremities of the branches. *Leaves* elliptico-lanceolate, horizontal, opaque, (not glossy) plane, acute, entire, hairy, the hairs brownish, patent, much veined, the veins sunk on the upper side, prominent beneath, tapering below into a short, hairy footstalk. *Flowers* three together from the extremity of the young branches, while in bud enveloped in large, membranous, deciduous *bracteas. Peduncles* short, hairy. *Calyx* cut, nearly to the base, into five erect, lanceolate, glandular and viscid segments. *Corolla* large, pure white, extremely delicate

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* From α ξαλεος, *dry:* so called from the situation in which the plant naturally grows.

delicate and very fragrant, in shape between campanulate and infundibuliform: the tube five-angled: the limb of five, nearly equal, spreading, large, ovato-oblong, waved lobes. *Stamens* ten, mostly unequal, and one or more frequently abortive. *Filaments* inserted upon the receptacle, white, much exserted, curved upwards, glandular at the base. *Anthers* of two, oblong, yellow cells, opening by a pore at the extremity. *Germen* ovate, obscurely five lobed, glabrous at the base, the rest clothed with white upright hairs. *Style* filiform, white, much longer than the stamens, and curved upwards. *Stigma* incrassated, green.

This AZALEA is said to have been introduced from China, by Mr. BROOKES, of the Nursery, Ball's Pond, in 1819. It is now commonly cultivated in our greenhouses, and is, I believe, generally considered to be a white-flowered variety of AZALEA *indica* (Bot. Mag. t. 1480.) As such, too, it seems to be enumerated by KÆMPFER, under the name of JEDOGAVA TSUTSUSI, in his valuable Amœnitates Exoticæ.

But if the two plants be compared, many differences will be discovered which have led me to describe the present as a species. The A. *indica*, for example, is a very free growing plant, arriving at a height of eight or ten feet, with long, twiggy, pendent shoots. The leaves are longer, glossy, concave, generally much less hairy, the nerves on the upper side not sunk, but rather elevated above the surface. The corolla is scentless and of a firmer texture. The calyx is not viscid; it is clothed with long, white, rigid hairs, and the segments are always horizontally patent or reflexed. The stamens are straight, scarcely shorter than the style.

A. *ledifolia* blossoms at the same season with the *indica*, namely, at the latter end of the winter, and in early spring, and requires the same treatment. It is not indeed a plant which boasts such vivid colours as the common *Indian Azalea*, but it is not less worthy of cultivation on account of the extreme delicacy and pure whiteness of the flowers, and their fragrant scent.

Our drawing was made from a fine individual profusely covered with blossoms in the Glasgow Botanic Garden, in February 1829.

It is very probable, judging from the habit of the plant, that the "double rose-coloured *var.* of AZALEA *indica*," Bot. Mag. t. 2509, will prove to be of the same species with the present.

Fig. 1. Stamen. 2. Front view of an Anther. 3. Back view of ditto. 4. Calyx. 5. Pistil. 6. Section of the Germen.—More or less *magnified*.

M.rs Ch. Telfair del.t

Pub. by S. Curtis. Walworth Apr. 1. 1829.

EUPHORBIA SPLENDENS. SHOWY RED-FLOWERED SPURGE.

Class and Order.

MONŒCIA MONANDRIA.

(Nat. Ord.—EUPHORBIACEÆ.)

Generic Character.

Involucrum androgynum 4—5-fidum, extus appendiculis, glandulosis (petala *L.* nectaria aliorum) : peripherici pedicelli incerti numeri, singuli cum singulis staminibus articulati. *Germen* pedicellatum, centrale : *styli* 3, 2-fidi. *Capsula* 3-cocca. *Spr.*

Specific Character and Synonym.

EUPHORBIA * *splendens;* fruticosa, aculeis validis numerosissimis, foliis oblongo-spathulatis mucronatis, bracteis suborbiculatis mucronatis basi unitis concavis, involucrum includente, filamentis furcatis.

EUPHORBIA splendens. *Bojer MSS.*

DESCR. *Stem* perennial, much branched, clothed with numerous long and strong, straight aculei, upright and dark-purplish at the extremity of the branches, the rest paler, broader at the base and horizontal. *Leaves* alternate, attenuated at the base, so that the whole is nearly spathulate, scarcely fleshy, mucronated at the point, with a midrib, and several lateral parallel veins, bright green, the older ones more or less coloured, very patent, entire, glabrous on both sides. *Peduncles* axillary, jointed in the middle, and there furnished with two small bracteas, upwards dichotomously divided,

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* Ευφορβιον of DIOSCORIDES, so called after EUPHORBUS, a physician of JUBA, king of Mauritania, who first made known the medical properties of this Genus of plants.

divided, so that the flowers form a cyme. *Bracteas* two, large, scarlet, roundish, spreading, united and somewhat cup-shaped at the base and greenish, the underside of the bracteas pale rose-colour. Immediately within the hollow part of the bracteæ is the *involucre*, monophyllous, cup-shaped, greenish, with five orange-coloured, fleshy, erect or slightly spreading, rounded lobes; and, alternating with these, a small red, inflexed, fleshy lobe or gland. *Male flowers* numerous, many of them abortive and intermixed with numerous hairs. *Pedicel* green. *Filament* red, forked, each fork bearing a one-celled *anther* of a dark purple colour. *Female flowers:* a solitary *pistil* in the midst of the stamens: scarcely pedicellate: *germen* three-lobed. *Style* three-partite: *stigmas* bifid, capitate. *Fruit* of three one-seeded *cocci*. *Seed* oblong, blunt at each extremity, glabrous. Bojer.

This handsome species of Euphorbia, well deserving the name of *splendens*, given to it by its discoverer, we trust will ere long, through the medium of our Botanical friends in the Mauritius, be introduced to the stoves of our country *. It was found by Professor Bojer on the borders of fields in the province of Emirne, in Madagascar, where it is known to the natives, by the name of *Soongo Soongo*. A drawing was taken on the spot by that indefatigable naturalist, and a beautiful copy was kindly made and communicated to me by Mrs. Telfair, from which the accompanying engraving has been made.

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* I have recently seen the plant blossoming in the garden of the Horticultural Society of London, in great perfection.

Fig. 1. Flowers or Involucre with its Bracteas. 2. Involucre with its Flowers. 3. Portion of the Involucre. 4. Female Flower. 5. Male Flower.—*Magnified.*

PENTSTEMON OVATUS. OVATE-LEAVED PENTSTEMON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord. — SCROPHULARINÆ.)

Generic Character.

Cal. 5-partitus. *Cor.* bilabiata, ventricosa. *Rudimentum filamenti* quinti superne barbatum. *Caps.* bilocularis.

Specific Character and Synonym.

PENTSTEMON* *ovatus;* herbaceus, floribus caule peduneulisque glanduloso-pilosis, foliis cordato-ovatis amplexicaulibus glabris grosse dentatis, inferioribus longe pedunculatis, corollis tubulosis, filamento sterili apice barbato basi unidentato. *Douglas.*

PENTSTEMON ovatus. *Douglas MSS.*

DESCR. *Stem* herbaceous, four feet high, erect, four-sided upwards, clothed with white, somewhat glandular, short hairs. *Leaves* large, ovate, glabrous, dark green, cordate at the base, coarsely dentate, the cauline ones amplexicaul at the base, upwards becoming smaller, less dentated, till they pass into the quite entire, cordate, floral leaves or bracteas. *Radical leaves* upon very long footstalks. *Flowers* in more or less compound racemes, which are opposite and spring from the upper or floral leaves: these latter, gradually becoming smaller, the whole form rather a dense panicle. *Calyx* glandular, five partite; the segments lanceolate

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* From πεντε, *five*, and στημα, *a stamen*, because of the fifth additional stamen which is so unusual in this family of plants.

ceolate, equal. *Corolla* of a brilliant purplish-blue colour, glandular externally: tube inflated above, upper lip with two straight, lower with three reflexed, oblong lobes. *Faux* hairy. *Filaments* curved: *Anthers* cordate, purplish-white: *Barren filament* with a sharp tooth at the base, and there white, purple at the extremity, and thickly clothed above with long brown hairs. Douglas.

In point of colour, this is perhaps the most beautiful of all the numerous species of this Genus lately detected in North-west America by Mr. Douglas, and it is equally hardy with the rest. The flowers, not large, are first of a rich ultramarine colour, gradually, as the flower becomes more expanded, the outside especially becomes of a deep purple, whilst the inside is much more inclined to azure blue.

Discovered by Mr. Douglas growing plentifully among limestone rocks on the high mountains about the Grand Rapids of the Columbia River, at the distance of one hundred and forty miles from the ocean; and by him introduced in 1826 to the Horticultural Society, whence our specimen was communicated in June 1828.

Fig. 1. Cauline Leaves. 2. Radical Leaf, *nat. size*. 3. Corolla. 4. Calyx including the Pistil. 5. Anther. 6. Barren Filament.—*Magnified.*

PODOLEPIS GRACILIS. SLENDER-STALKED PODOLEPIS.

Class and Order.

SYNGENESIA SUPERFLUA.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Involucrum subglobosum, scariosum, squamis stipitatis. *Receptaculum* nudum. *Pappus* scaber.

Specific Character and Synonyms.

PODOLEPIS * *gracilis;* herbacea, glabra, foliis oblongo-lanceolatis basi trinerviis amplexicaulibus glaberrimis, inferioribus obtusis, superioribus acutis, involucri squamis lævibus.

PODOLEPIS gracilis. *Graham in Edinb. N. Phil. Journ. for July,* 1828. *Sweet. Brit. Fl. Gard. t.* 285.

DESCR. *Root* slender, subfusiform, annual, fibrous. *Stem* one to two feet high, erect, slender, terete, wiry, purplish, quite glabrous, as is the rest of the plant; branched upwards in a paniculated manner. *Leaves* alternate, remote, dark-green above, paler beneath, oblongo-lanceolate, quite entire at the base, three nerved, and embracing the stem: the lowermost ones more or less cordate at their insertion, very obtuse at the point, the rest acute, or even acuminate. *Flowers* numerous, terminal, purple, showy. *Peduncles* slender, scaly, the scales scariose. *Involucre* almost globose, of many closely imbricated, scariose, almost white scales; the outer ones oval, very obtuse, with a short green stalk

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From πους, ποδος, *a foot*, and λεπις, *a scale*. So named by LABILLARDIERE, from the pedicellated scales of the involucre.

stalk and a green central nerve, (f. 1.) the inner and upper ones, ovate acuminate; (f. 2.) having a long broad stalk with a central green nerve. *Florets* of the centre purple, (as well as those of the circumference,) tubular, five-toothed. *Anthers* purple. *Germen* oblong, obscurely striated, pubescent. *Pappus* shorter than the corolla, distinctly scabrous. *Style* exserted beyond the stamens. *Stigma* bifid, the segments linear. *Florets* of the circumference, as long as the disk is broad. *Corolla* ligulate, obscurely bi-tridentate; its tube long, slender: *Germen*, pappus and style, as in the central florets; the latter a little protruded beyond the tube.

We received seeds of this very pretty plant from Mr. Fraser of New South Wales, at the Glasgow Botanic Garden, where, treated as a hardy annual, it flowered in the open border during the summer and autumnal months. Dr. Graham, with his accustomed promptitude and kindness, communicated at the same season specimens which bloomed at Edinburgh, and which he described in Jameson's Journal, under the name we have here adopted.

It certainly comes very near to the figure of Podolepis *rugata* of Labillardiere: but there the flowers are yellow (according to Cassini) the leaves are narrower and more tapering at the base, and the scales of the involucre are described, though not represented, as being *wrinkled*.

Sprengel has united the Scalia *jaceoides* of Dr. Sims (Bot. Mag. t. 956.) with the Podolepis *rugata*, notwithstanding that the florets of the ray are both figured and described as being *tubular* (as in Centaurea) which is by no means the case with Labillardiere's plant; whilst Mr. Brown has made of the same plant his Podolepis *acuminata* (Hortus Kewensis, vol. 5.), but without noticing the particular nature of the florets of the circumference.

Fig. 1. Outer Scale of the Involucre. 2. Inner ditto. 3. Floret of the Disk. 4. Floret of the Circumference. 5. Hair from the Pappus.—*Magnified.*

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3
4
2
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DOMBEYA ANGULATA. ANGLE-LEAVED DOMBEYA.

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Class and Order.

MONADELPHIA POLYANDRIA.

(Nat. Ord.—BUTTNERIACEÆ.)

Generic Character.

Cal. 5-partitus, persistens, involucello 3-phyllo unilaterali cinctus. *Pet.* 5. *Stam.* 15—20, filamentis vix basi coalitis, 5-sterilia, 2—3 fertilia inter quodque sterile. *Stylus* 1, apice in stigmata 5, subreflexa fissus. *Carpella* 5, bivalvia, 1-polysperma in capsulam arcte connexa. *Cotyledones* contortuplicatæ, bifidæ. *De C.*

Specific Character and Synonyms.

DOMBEYA* *angulata;* foliis cordatis acuminatis serratis adultis angulatis, supra glabris subtus pubescentibus, floribus capitato-corymbosis, calycibus pedunculisque pubescenti-stellatis.

DOMBEYA angulata. *Cav. Monadelph. p.* 123. *t.* 39. *f.* 1. and *Cat. Hort. Calc. (fide Wallich.)*

DOMBEYA tiliæfolia. *Cat. Hort. Calc., an Cavan.? (fide Wallich.)*

DOMBEYA cordifolia. *De Cand. Prodr. v.* 1. *p.* 499*? (Wallich.)*

DESCR. A *shrub* ten to twelve feet high, much branched, clothed with greyish wrinkled bark, naked below. The leaves confined to the extremities of the branches, petiolated,

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* Named in honour of JOSEPH DOMBEY, a French Botanist, who accompanied RUIZ and PAVON, and of whose adventurous life an interesting account is given in the Annales du Muséum d'Histoire Naturelle, and in KÖNIG and SIMS Annals of Botany.

ed, cordate, somewhat waved, acuminated, serrated, three-nerved, with many smaller lateral nerves, glabrous above, minutely pubescent beneath, horizontally patent, the older ones with from three to five angles: *Petioles* two inches or more long, slender, terete, pubescent. *Peduncles* terminal, two to three inches long, bearing a corymbus of many flesh-coloured flowers, and, as well as the calyx, stellato-pubescent. *Pedicels* with three oval, concave bracteæ just beneath the calyx. *Calyx* five-partite: *Segments* lanceolate, acuminate, spreading; at the base having a large yellow gland, and a smaller one alternating with each. *Stamens* twenty, united into a tube at the very base, five are linear barren filaments, much longer than the fertile ones, yet shorter than the style. *Anthers* oblong purplish, two-celled. *Pollen* yellow. *Germen* ovato-globose, hairy. *Style* slender, cylindrical, glabrous, terminating in five linear, recurved, glandular stigmas.

Raised in the stove of the Glasgow Botanic Garden from seeds sent by Dr. Wallich, under the name of Dombeya *angulata*, and as a native of the Mauritius. To Dr. Wallich I am likewise indebted for the above synonyms, and some excellent specimens from the Calcutta Botanic Garden, in which the leaves are more angled than in the plant cultivated in our stove.

It is a fine handsome growing shrub, with somewhat of the habit of Astrapœa, but altogether wanting the large stipules which seem to be characteristic of that Genus; and the flowers are of a very different structure in the two genera.

Fig. 1. Flower. 2. Portion of the Stamens. 3. Anther. 4. Pistil. 5. Base of a portion of the Stamens, with a Segment of the Calyx to show the Three Glands at its base.—*Magnified.*

W. J. H. del.t

Pub. by S. Curtis, Walworth, May 1st 1829.

DENDROBIUM ÆMULUM. SMALL CLUSTERED DENDROBIUM.

Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum ecalcaratum, articulatum cum apice processus unguiformis, cujus lateribus petala antica adnata, calcar æmulantia. *Massæ pollinis* 4, parallelæ. *Br.*

Specific Character and Synonyms.

DENDROBIUM* *æmulum;* caulibus erectis apice 2—3-phyllis, foliis ovali-oblongis integerrimis racemo terminali multifloro brevioribus, perianthii foliolis linearibus, labello infra divisuram carina triplici, lobo intermedio semiovato acutiusculo unicarinato. *Br.*

DENDROBIUM æmulum. *Br. Prodr. Fl. Nov. Holl. p. 333. Spreng. Syst. Veget. v. 3. p. 739.*

Not having seen the present plant in a living state, I will not venture to state any particulars respecting it, further than that the plant was sent from New South Wales in 1823, by Mr. CUNNINGHAM, to the Royal Gardens at Kew, where it flowered in December, 1825. The beautiful drawing from which the accompanying engraving was made, was kindly communicated by WILLIAM TOWNSEND AITON, Esq. and marked "DENDROBIUM *æmulum*" of BROWN.

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* From δενδρον, *a tree*, and βιος, *life:* from the circumstance of the plants bearing that name, living for the most part in the trunks of trees.

Fig. 1. Column and Lip. 2. Column. 3. Pollen Masses. 4. Single Pollen Mass.—*Magnified.*

W. J. H. del.

Pub. by S. Curtis, Walworth, May 1829.

MENTHA VERTICILLATA. WHORLED MINT.

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Class and Order.

DIDYNAMIA GYMNOSPERMIA.

(Nat. Ord. — LABIATÆ.)

Generic Character.

Calyx 5-dentatus. *Cor.* 4-loba, subregularis, lobo latiori emarginato. *Stamina* distantia, recta. *Spr.*

Specific Character and Synonyms.

MENTHA* *verticillata;* spicis terminalibus cylindricis crassis, floribus densissime congestis, filamentis exsertis pilis articulatis medio cinctis, caule ramoso ascendenti basi repente, foliis verticillatis superne quaternis elliptico-linearibus serratis. *Graham.*

MENTHA verticillata. *Roxb. Hort. Beng. p.* 44. *Don. Prodr. Fl. Nepal. p.* 114. *Graham in Edinb. N. Phil. Journ. n.* 11. *Spreng. Syst. Veget. cur. post. p.* 227.

MENTHA veronicæfolia. *Hamilton MSS.*

MENTHA ? pumila. *Graham in Edinb. N. Phil. Journ. for April* 1829.

DESCR. Annual. *Stem* cæspitose, ascending, rooting at the joints where it lies upon the ground, much branched, six to eight inches high, striated, translucent, obscurely angled, the cells of the circumference large, empty, pale green, and equal in length to the joints, their walls being composed of a single row of small four-sided cells ; those in the centre much smaller, succulent, surrounded by a purple membrane,

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* An ancient Latin word, mostly written *Menta*, adopted from the Greeks, whose μινθε is synonymous with their ήδυοσμος, the latter being most generally used. The *Nymph Mintha*, a favourite of Pluto, is fabled to have been changed by Proserpine into this Herb, as incidentally mentioned by OVID.—SMITH.

membrane, to the angles of which the roots, branches, and leaves may be easily traced, and on the inside of which there is a fascicle of spiral vessels. *Branches* simple. *Leaves* one and a half inch long, gradually smaller upwards, very numerous, verticillate, four in the whorls towards the top of the stem, often five or six below, (ten according to Don,) oblongo-linear, sparingly and distantly serrated in the upper half, rarely more than two serratures on each side, spreading, veinless, flat, slightly channelled above, keeled below, and having minute dots on both sides. *Inflorescence* a terminal, dense, whorled, cylindrical spike (on the leading shoot three-fourths of an inch long, on the others shorter,) much thicker than the top of the stem. *Bracteæ*, one at the base of each flower, ovato-lanceolate, hairy and strongly ciliated, concave, connivent at the points, and as long as the calyx. *Calyx* ovate, inflated, four-cleft, segments equal, connivent, pointed, hairy. *Corolla* four-toothed, slightly spreading, hairy on the outside, twice the length of the calyx, nearly regular, purple, and varying with the internal membrane of the stem in the depth of its shade, lower segments slightly emarginate. *Stamens* four, exserted; anthers like rounded, clavate, terminations to the filaments, pale, unilocular, bursting in a line across their extremities, and becoming brown; pollen subglobular, white; filaments pink, straight, distant, having in their middle a whorl of hairs, appearing under the microscope like strings of round beads. *Style* filiform, as long as the stamens, cleft at the top; segments revolute. *Stigma* capitate. *Germen* four-lobed. Graham.

My friend Professor Graham is perfectly correct in referring this plant to the Mentha *verticillata* of Roxburgh; for, though somewhat at variance with the description of Mr. Don in the Prodromus Floræ Nepalensis, it quite accords with the figure sent by Dr. Roxburgh to the Honourable the East India Company. It is a native of watery places in Bengal as well as in Nepal, and was raised in the Edinburgh Botanic Garden from seeds obtained from the latter country, and communicated by Capt. M'Gill. The plants were reared in the stove in pots set in water, but after blossoming they soon damped off without producing any seed.

Fig. 1. Flower and two Buds. 2. Stamen. 3. Hair from the Stamen. 4. Pistil.—*Magnified.*

½ of nat size.

Pub by S. Curtis, Sidworth May. 1822

Crinum plicatum. Plaited-leaved Crinum.

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Class and Order.

Hexandria Monogynia.

(Nat. Ord. — Amaryllideæ.)

Generic Character.

Cor. 6-partita subregularis, laciniis apice uncinatis. *Stam.* recta, tubo inserta. *Caps.* trilocularis. *Spr.*

Specific Character and Synonym.

Crinum* *plicatum;* foliis supra basin alato-expansis, alis plicatis.
Crinum plicatum. *Livingstone MSS.*

Descr. From the top of the Bulb arise several dark-green leaves, from a foot and a half to two feet long, sheathing at the very base and striated: at some little distance above the base, the margin is suddenly and very curiously expanded into a broad, membranaceous, striated, and singularly plaited wing, which, upwards, gradually becomes attenuated into the extremity of the leaf itself. In other respects the plant so much resembles the Crinum *asiaticum*, that it is not necessary here to describe it.

About five years since Dr. Livingstone obligingly communicated to our Glasgow Botanic Garden, a bulb of this singular plant from China, and he sent me a drawing of the natural size, made in that country, which, after comparing with our plant that flowered in the spring of last year, 1828, I have here copied upon a greatly reduced scale. I confess

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* From κρινον, a Greek word for the Lily, and hence applied to other showy flowers allied to that tribe.

confess myself unable to decide upon what constitutes a species and what a variety in this most variable tribe of plants. I cannot do better, then, than follow the opinion of my valued friend Dr. LIVINGSTONE who has cultivated it in China, along with the CRINUM *asiaticum* (its nearest ally,) and who, from many years' experience, finds it to be permanent in its character. He observed that it was not difficult to increase it; and at Macao he obtained several individuals by offsets from the bulbs. It has, he observes, not unfrequently three flowering stems from the same *bulb*, and each stem about twenty flowers.

The figure represents CRINUM *plicatum*, reduced to about one quarter of the *natural size*.

W. J. E. del.

Pub. by S. Curtis, Kelworth May 1.st.

ERYTHROLÆNA CONSPICUA. CONSPICUOUS ERYTHROLÆNA.

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Class and Order.

SYNGENESIA ÆQUALIS.

(Nat. Ord. — COMPOSITÆ.)

Generic Character.

Involucrum conicum; foliolis acuminatis, interioribus imbricatis, integerrimis, exterioribus reflexis spinoso-dentatis. *Receptaculum* convexum pilosum. *Flosculi* omnes hermaphroditi, tubulosi: *limbo* altero quinque partito: laciniis linearibus apice incrassatis: *tubo* 5-angulato basi angustato. *Filamenta* glanduloso-pilosa. *Antheræ* basi bisetosæ. *Stigma* bifidum; laciniis approximatis. *Pappus* sessilis, plumosus. *Sweet.*

Specific Name and Synonym.

ERYTHROLÆNA* *conspicua.*
ERYTHROLÆNA conspicua. *Sweet. Brit. Fl. Gard. t.* 134.

DESCR. Annual, or perhaps biennial. *Stem* eight to ten feet high, erect, much branched, angled and furrowed, pubescent, purplish-green. *Leaves* alternate, sessile, the lower ones six to eight inches long, deeply pinnatifid or even bipinnatifid, dark shining green, pubescent with deciduous down, much veined, the veins most conspicuous beneath, the margin waved and sinuated, and armed with short brown or purplish spines: those of the upper part of the stem and branches lanceolate, very spinous. *Flowers* large and very handsome, terminating the young branches. *Involucre*

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* From Ερυρος *red* and αλλαινα *a covering*: so named in consequence of the beautiful red involucre of the flower.

Involucre long, conical: *scales* lanceolate, outer ones reflexed, somewhat foliaceous, green with a purple tinge, spinous at the margin and tipped with a long, sharp spine; the rest erect, imbricated, linear-lanceolate, somewhat membranaceous, very sharp, but scarcely spinous, of a beautiful deep orange-red colour. *Florets* several, inserted upon a convex, fleshy, pitted receptacle, interspersed with numerous chaffy hairs. *Corolla* yellowish, scarcely longer than the involucre, tubular; limb cut into five long, linear segments. *Anthers* purple, much protruded, bisetose at the base: filaments purplish, rough. *Style* considerably exserted. *Stigma* clavate, bifid, purple. *Germen* oblong, glabrous. *Pappus* sessile, the hairs beautifully plumose.

This extremely beautiful plant, which is already becoming a general ornament to our flower borders, was introduced to this country from Mexico, by Mr. Bullock; and first raised by Mr. Tate of the Sloane Street Nursery, under the name of the *Scarlet Thistle*. It was early brought to flower in the highest degree of perfection by Mr. Barclay, at Bury hill, by planting it in the border against a South wall. So situated, it thrives most luxuriantly in the latter end of summer, and a succession of blossoms appear till the plant is cut down by the frost. The Glasgow Botanic Garden is indebted to Mr. Barclay for its introduction there; and even in this Northern latitude it thrives well in the exposed flower bed.

Fig. 1. Floret, with some of the chaffy hairs of the Receptacle at its base. 2. Scarcely mature Germen. 3. Hair from the Pappus.—*Magnified.*

Pub by Curtis, Walworth May 1st 1821

VERBENA BRACTEOSA. BRACTEATED VERBENA.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord. — VERBENACEÆ.)

Generic Character.

Cal. 5-fidus, dente unico subbreviore. *Cor.* limbus irregulariter 5-lobus. *Stam* inclusa. *Utriculus* 4-spermus, cito rumpens, ut maturi fructus caryopses sistant. *Spr.*

Specific Character and Synonyms.

VERBENA* *bracteosa ;* hirsuta, foliis laciniato-pinnatifidis, supremis trifidis, spicis elongatis, bracteis lanceolatis fructu duplo longioribus squarrosis.

VERBENA bracteosa. *Mich. Fl. Am. Bor. v.* 2. *p.* 13. *Pursh. Fl. Am. Sept. v.* 2. *p.* 416. *Spreng. Syst. Veget. v.* 2. *p.* 749.

ZAPANIA bracteosa. *Poir. Encycl. v.* 8. *p.* 843.

DESCR. Perennial. *Stem* procumbent below, branched; the branches opposite, square, hairy. *Leaves* opposite, three inches and more in length, spreading, hairy, laciniato-pinnatifid, veined, dark green; paler, and with more prominent veins beneath, the upper leaves trifid, gradually smaller, and changing almost imperceptibly into bracteæ. *Spike* much elongated, composed of numerous flowers, which, however, are very evanescent, bracteated; the bracteæ large, lanceolate, entire, variously curved and squarrose, often secund.

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* From *Ferfaen* a Celtic word. *Fer* (*charier* in French, according to THÉIS, and hence I presume meaning) *to convey away,* and *faen, a stone ;* because it was employed to cure the disorder of that name.

secund. *Calyx* almost cylindrical, five toothed, the innermost tooth the smallest, green, reddish at the point, hairy. *Corolla* about twice the length of the calyx; tube cylindrical, reddish purple, pale, a little narrower upwards: *limb* small, oblique, of five unequal lobes, pale bluish purple. *Fruit* of four oblong, wrinkled, pale-brown *achenia*, firmly enclosed in the calyx.

VERBENA *bracteosa* seems to have an extensive geographical range, it having been found in the Illinois country and in Kentucky, and lately by Mr. DOUGLAS on the sands of Menzies Island in the river Columbia, and on dry gravelly river banks throughout almost all the Western parts of the Continent of North America which he visited. By him it was likewise introduced to the Horticultural Society's Gardens, from whence the specimen here figured was kindly communicated in September, 1828.

Fig. 1. Flower and Bractea. 2. Pistil. 3. Fruit enclosed in the Calyx. 4. Fruit separated from the Calyx.—*Magnified.*

Bot. Mag. tab. 2011

Pub. by S. Curtis Walworth, June 1829

Swan Sc

ANNONA RETICULATA. NETTED CUSTARD APPLE.

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Class and Order.

POLYANDRIA POLYGYNIA.

(Nat. Ord.—ANNONACEÆ.)

Generic Character.

Sepala 3, basi coalita, concava, subcordata, acutiuscula. *Pet.* 6, crassiuscula, interiora minora aut nulla. *Antheræ* plurimæ, subsessiles, apice angulatæ, dilatatæ, torum obtegentes. *Carpella* plurima, coalita in baccam sessilem, cortice muricato squamoso aut reticulato, intus pulposam, ad ambitum multilocularem, loculis monospermis. *D. C.*

Specific Character and Synonyms.

ANNONA * *reticulata ;* foliis oblongo-lanceolatis acutis glabris subpunctatis, petalis exterioribus oblongis subclausis, fructibus ovato-globosis reticulato-areolatis.

ANNONA reticulata. *Linn. Sp. Pl. p. 757. (excl. Syn. Rumph.) Willd. Sp. Pl. v. 2. p. 1266. (excl. Syn. Plum. et Rumph.) Dunal Monogr. des Annon. p. 72. De Cand. Syst. Veget. v. 1. p. 473. Ejusd. Prodr. v. 1. p. 85. Spreng. Syst. Veget. v. 2. p. 640.*

(α.) areolis squamoso-rotundatis.

ANONA-MARAM. *Rheed. Mal. v. 3. p. 23. t. 30, 31.*

ANONA *maxima ;* foliis oblongis angustis, fructu maximo luteo conoideo, cortice glabro in areolas distincto. The Custard Apple Tree. *Sloane Jam. v. 2. p. 167. t. 2. p. 226.*

GUANABANUS

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* Often written *Anona,* a word of doubtful origin. EUSEBIUS NIEREMBERG says it is the name applied to this tribe of plants by the inhabitants of St. Domingo. RUMPHIUS supposes it to be derived from the Malay word *Manoa,* or *Menona,* by which name the Genus is still known in Banda. *Nana* is its denomination in Sumatra. LINNÆUS calls it *Annona,* a Latin word signifying *provisions,* and hence applicable to plants whose fruits are so generally esculent.

Guanabanus fructu purpureo. *Plum. ed. Burm. v. 2. p. 134. t. 143. f. 2.*
(β.) areolis angulatis subpentagonis.
Annona reticulata. *Jacq. Obs. v. 1. p. 14. t. 16. f. 2.*

Descr. A shrub, or small tree, from ten to fifteen feet high, or more, with spreading, tuberculated branches, tubercles brown. *Leaves* numerous, alternate, on short, channelled petioles, oblongo-lanceolate, six to eight inches long, submembranaceous, dark green, quite entire, penni-nerved, obtuse at the base, rather acuminated at the point, yielding like its congeners, a very disagreeable smell. *Peduncles* lateral branched, bearing about three flowers, and drooping. *Pedicels* swollen upwards. *Calyx* of three minute, subcordate, acute leaflets. Three exterior petals large, linear, obtuse, broader at the base, of a greenish color, thick texture, and trigonous; at the base of each is a hollow to receive, as it were, the body of stamens and pistils, and there of a deep purple colour, externally paler: the inner side of the petals is almost white. Three interior petals, very minute, alternating with the outer, linear oblong, green, with red on each side near the top. Mass of *Stamens* and *Pistils* roundish, springing from an hemispherical torus, or fleshy receptacle. *Anthers* oblong, almost sessile, having a capitate appendage at the point. *Pistils* minute. *Germen* oblong, green. *Stigma* linear, brownish, sessile. As the fruit advances to maturity, the stamens fall away, and leave that part of the torus naked, above which the mass of pistils become enlarged, conglomerated, and united into a globose, inclining to heart-shaped, pulpy *Berry*, as large as a good-sized orange, whitish within, externally of a reddish-brown colour, sprinkled with dots of a darker colour, and marked with more or less angular reticulations, whose areolæ are constituted by the enlarged and united pistils. *Seeds* numerous, oblong, compressed, dark, shining brown. *Albumen* horny, white, marked with numerous transverse lines.

A native of the West India Islands, thence introduced into Malabar, and the Malay Archipelago, and into the stoves of the Royal Garden at Hampton Court, in 1690, It does not appear, however, ever to have produced flowers with us: hence I am glad to have the opportunity of representing the plant both in this state and in fruit, from dried specimens

Pub. by S. Curtis. Walworth. June 1 1824.

specimens and from drawings, sent to me by Mr. Guilding, from the island of St. Vincent in the West Indies.

Although, according to Sloane and other writers, the pulp of this fruit "is, for colour, and consistence, and sweetness in taste like a custard" (whence the common English name) is "eaten with a spoon," and, "thought a very delicious substance," yet by others it seems to be but little prized, and is scarcely so general an article of food as the *Sour Sop*, (An. *muricata*) or the *Sweet Sop*, (An. *squamosa*) of the same countries. It is more frequently vaunted on account of its medicinal qualities; so that, according to Dr. Chevalier, a celebrated physician of St. Domingo, as quoted in the Flore Medicale des Antilles, we have not in Europe so quick and so certain a remedy against Diarrhæa and Dysentery as the Custard Apple.

The flowering season in St. Vincent is from June to October; and the fruit comes to perfection in March and April. This latter is termed by the French colonists "*Cœur de Bœuf.*"

Tab. 2911. Fig. 1. Flower of the Annona *reticulata*, with one of the Petals bent back to shew the Stamens and Pistils, *nat. size*. 2. Calyx and a portion of the Peduncle. 3. Two of the inner Petals. 4. Flower, from which the three outer Petals are removed. 5. Stamen. 6. Pistil.—All from fig. 2. *magnified*.

Tab. 2912. Fig. 1. Fruit of Annona *reticulata*. 2. Section of ditto. 3. Seeds. 4. Section of ditto.—All of the *nat. size*.

—W.J.H. del.—

Pub by S. Curtis, Walworth June 1. 1829.

—Swan Sc—

LOTUS PINNATUS. PINNATE-LEAVED LOTUS.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. tubulosus, 5-fidus. *Alæ* vexillum subæquantes; carina rostrata. *Legumen* cylindraceum vel compressum apterum; *stylus* rectus; *stigma* oculo nudo subulatum (vel capitatum.) *De C.*

Specific Character.

LOTUS * *pinnatus*; foliis pinnatis, foliolis 4-jugis cum impari oblongis glabris.

DESCR. Whole plant glabrous. *Stems* decumbent, branched near the base, *branches* terete, striated. *Leaves* remote, alternate, pinnated with about three pairs of alternate oblong, or, in the wild specimens, obovate leaflets, and terminated by an odd one. *Stipules* ovate, rather small, erect, appressed. *Rachis* or main *petiole* a little swollen at the base. *Peduncles* axillary, but generally spreading in a direction opposite to that of the leaves, equal to them in length or longer, sometimes shorter. *Flowers* umbellate. *Pedicels* short. *Calyx* tubular, thick and fleshy at the base, the rest rather membranous, four-toothed, the two lateral

and

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* A term employed by the Egyptians and the Greeks to some plant, which was esteemed as food, and hence, perhaps, applied to this Genus, of which our species, the LOTUS *edulis*, is used as food by man in Italy; while the others are unquestionably good for cattle.

and lower teeth linear, the upper one oblong and bifid. *Corolla: Vexillum* and *carina* yellow: *Alæ* almost white, waved, the claws very distinct, linear, that of the vexillum remote from the rest. *Stamens* diadelphous; the free one apparently always abortive, the rest united to a little below the anthers, where they separate into nine alternately shorter and narrow filaments. *Anthers* smaller on the shorter filaments, roundish, yellow. *Germen* linear: *Style* filiform, curved upwards: *Stigma* capitate. *Legumen* two to three inches long, compressed, brownish, a little contracted between the seeds, acuminated at the point; within bearing several roundish, oblong, compressed *seeds*. Between the seeds are spurious dissepiments.

This is another of the many interesting novelties discovered by Mr. Douglas, and thus introduced to the gardens of the Horticultural Society, where it flowered in June, 1828, in the open border, and in common soil. It was found growing abundantly in low alluvial, overflowed soils between Fort Vancouver and the Grand Rapids, upon the Columbia, and also near the base of Mount St. Helen's, in similar situations. The root is perennial.

The habit of this plant, and the general appearance of the flowers and seed-vessels, unite this plant to the Genus Lotus. But it differs from it in the pinnated (not ternate) leaves, in the long, linear, remote claws of the petals, the waved alæ, and the capitate stigma;—still I am not sure that these are characters which would warrant a separation from the true Loti.

Fig. 1. Flower. 2. Stamens including the Pistil. 3. Summit of the Pistil and Stamens, the latter spread open. 4. Style and Stigma.—*Magnified.*

— W.J.H. del! —

Pub by S. Curtis, Widworth, June 1. 1829.

— Swan —

JUSTICIA NODOSA. SWOLN-JOINTED JUSTICIA.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — ACANTHACEÆ.)

Generic Character.

Cal. æqualis, 5, raro 4-partitus. *Cor.* valde irregularis, bilabiata vel ringens, labio inferiore diviso. *Stam.* duo, antherifera. *Antheræ* biloculares, loculis insertione sæpius inæqualibus. *Filamenta* sterilia nulla vel obsoleta. *Ovarii* loculi dispermi. *Dissepimentum* adnatum. *Semina* retinaculis subtensa. *Br.*

Specific Character.

JUSTICIA *nodosa;* (antheræ loculis distantibus) foliolis ovato-acuminatis obsolete serratis brevissime petiolatis glabris, floribus axillaribus tubulosis bilabiatis, labio superiore erecto, inferiori deflexo trifido, bracteis longis angusto-linearibus, caule ad nodos tumido.

DESCR. A low shrub, glabrous throughout the stems and leaves, much branched, the branches greenish-brown, jointed, articulations terete, swollen at each extremity. *Leaves* opposite, ovate acuminated, obscurely serrated, dark-green above, pale beneath. *Flowers* in short axillary, few (two or three) flowered racemes, erect. *Bracteæ* four or five, at the base of each flower, linear-filiform, subpubescent. *Calyx* ovate, cut into five deep, erect, oblongo-ovate segments. *Corolla* large, handsome, of a beautiful rich but rather pale crimson: *Tube* very long, thickened upwards and striated, a little pubescent below: *Lips* long, upper one erect, linear acuminate, emarginate at the extremity

mity. *Stamens* four, didynamous, standing with beautiful regularity. *Anthers* with the cells remote, but opposite and unequal in size, deep purple: the substance which unites these, whitish, fleshy.

Of this handsome species I know nothing except that it was imported by the Messrs. SHEPHERDS from Brazil to the Liverpool Botanic Gardens, in the stove of which noble Institution it flowered in September, 1828. Its nearest ally is, perhaps, JUSTICIA *oblongata* of LINK and OTTO, in the ninth number of their plants of the Berlin Garden; but that has truly lanceolate leaves, and much longer and more leafy bracteæ. Both are swollen at the jointings of the stem.

J. *nodosa* is a plant worthy a place in every stove, on account of the large size and beautiful colour of the flowers.

Fig. 1. Calyx with its Bractea and a young Bud. 2. Anther.—*Magnified.*

W. H. del.

Pub. by S. Curtis Walworth June 1 1829

CALCEOLARIA THYRSIFLORA. TUFTED SLIPPER-WORT.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — SCROPHULARINÆ.)

Generic Character.

Cal. 4-partitus. *Cor.* bilabiata, labium inferius calceiforme, inflatum. *Caps.* semibivalvis, valvulis bifidis.

Specific Character and Synonym.

CALCEOLARIA *thyrsiflora;* fruticosa ramosa, foliis oppositis linearibus, basi attenuatis, lineatis serrato-dentatis glabris viscosis sessilibus, thyrsis terminalibus confertis, pedicellis decompositis umbellatis.

CALCEOLARIA thyrsiflora. *Graham in Edinb. New Phil. Journ.* 1828, *p.* 273.

DESCR. An erect *shrub: stem* round, bark brown and cracked; *branches* spreading at their origin, afterwards erect, when young, somewhat rough and obscurely glandular. *Leaves* (two inches long, two lines broad) opposite, sessile, spreading, linear, subacute, becoming narrower towards their base, channelled, lineate, keeled behind, rather distinctly serrato-dentate; the whole edge, but particularly the teeth, reflected, without hairs, as well as the *peduncles* and *pedicels* shining on both surfaces from a viscid exudation. *Common peduncles* terminal, elongated, nearly naked below, the upper leaves passing into *bracteas,* and becoming entire; the *pedicels* rise from the axils of these, and are once, twice, or oftener divided, in form of little umbels, having at each subdivision a pair of bracteas, similar, but successively smaller: ultimate division of the pedicels longer than the flowers. *Flowers* yellow, crowded into a handsome thyrsus at the extremity of each branch. *Calyx* yellowish-green, four partite, segments (one-fourth of an inch long,) ovato-lanceolate, glandular on both surfaces, unequal, slightly divaricated, but after the corolla falls closing over the germen, obscurely nerved. *Corolla* subglobular, nearly twice as long as the calyx, glabrous on the outside, except a slight pubescence where the closed lips

lips touch, pubescent within, especially towards the base, obscurely striated, depressed at its base, closed, lower lip larger than the upper; stamens projecting into a depression in the lower lip: filaments rising from the base of the lower lip, hairy, stout, slightly curved upwards, pitted on their lower side near the anthers. *Anthers* pale yellow, placed transversely on the filaments, bilobular, lobes connected to each other longitudinally, and furrowed along their anterior surface, where they burst and discharge a white pollen. *Germen* conical, furrowed on two sides, bilocular, green, viscid. *Style*, filiform, straight, longer than the stamens; *stigma* small, *ovules* very numerous, and attached to a large central receptacle, the transverse section of which is kidney-shaped, and entire in each loculament. GRAHAM.

This very handsome and novel species of SLIPPER-WORT was raised in the Botanic Gardens, both in Edinburgh and Glasgow, from seeds received from Dr. GILLIES, Mendoza; but it flowered first in the collection of P. NEILL, Esq. Canonmills, Edinburgh, who had obtained the plant from the same liberal source, in the summer of 1828. Mr. CRUICKSHANKS also has obligingly sent me specimens marked as "*Palpe*" of the natives, who use it to procure a yellow dye *.

The blossoms have a slight fragrance, not unlike that of the flowers of the LABURNUM.

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* I mentioned under CAL. *arachnoidea*, (tab. 2874.) that Dr. GILLIES had communicated to me some further information respecting that plant, which I should insert under the present species. The CALCEOLARIA, he says, "described by Dr. GRAHAM under the name of C. *arachnoidea*, and to which I had assigned the specific appellation of C. *tinctoria*, in consequence of its utility in dying, I first found, near the silver mines of St. Pedro Nolasco, on the summit of the mountain so called, near the junction of the river Maypu with the Rio del Yeso and del Volcan. On a subsequent journey across the Cordillera, further to the South, and opposite to San Fernando, I also met with it in abundance, growing in all the most elevated vallies which I visited, in the vicinity of la Casa de las Damas. Here many people were employed in digging up the roots, which they dry and collect in bundles for sale. In Chili, where this plant is in great use, under the name *Relbun*, for dying woollen cloths of a deep crimson colour, the alum-earth called *Poleura*, and employed as a mordant in this process, is obtained abundantly from a mountain in the neighbourhood. It grows in hard gravelly soil, where the fibrous roots penetrate in all directions; a circumstance which renders the collecting of this plant to any considerable extent, a work of time and labour. The C. *arachnoidea* flowers about the end of March or beginning of April; and at the latter time the ripe seeds may also be procured.

"The elevation of the Casa de las Damas, in the neighbourhood of which the *Relbun* abounds, may be estimated from the height of the barometer, which stood at 22,956 inches, heat of mercury 54°. Temperature of atmosphere 52°. This *Relbun* appears to be quite distinct from that which is mentioned by MOLINA, Chili, vol. 1. p. 115."

Fig. 1. Entire Flower. 2. Corolla, shewing the Anthers. 3. Calyx, with the Pistil. 4. Pistil.—All more or less *magnified*.

Dischidia benghalensis. Bengal Dischidia.

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Class and Order.

Pentandria Digynia.

(Nat. Ord.—Asclepiadeæ.)

Generic Character.

Cor. urceolata, quinquefida. *Corona staminea* laciniis subulatis patentibus recurvis. *Massæ Pollinis* erectæ, basi affixæ. *Stigma* muticum. *Folliculi* læves. *Semina* comosa. *Br.*

Specific Character and Synonyms.

Dischidia * *benghalensis;* foliis ellipticis tereti-compressis carnosis glaucis.

Dischidia benghalensis. *Colebr. in Linn. Trans. v.* 12. *p.* 357. *Spreng. Syst. Veget. v.* 1. *p.* 844.

Descr. Whole plant succulent, glaucous green, parasitic. *Stem* scandent and climbing, branched, terete, here and there sending forth slender, branching, fibrous roots, lactescent. *Leaves* opposite, an inch and an inch and a half long, elliptical, rather obtuse, tereti-compressed, entire, upon short, rounded, fleshy footstalks. *Flowers* placed in small, axillary, almost sessile umbels, white. *Calyx* of five fleshy, rounded lobes. *Corolla* urceolate: tube globose, limb of five erect, oval, acute, fleshy teeth. *Corona* of five segments, linear, branching at the top into two falcate, recurved, subulate laciniæ. *Anthers* confluent at the base, ovato-

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* So named by Mr. Brown, from δις, *two*, σχιδη, *a splitting*, I presume, in consequence of the dividing of the segments of the staminal corona.

ovato-triangular, acute, yellowish-brown, meeting so as to form a cone; each two-celled. *Pollen Masses* club-shaped, yellow, waxy, connected by a gland into pairs, each pair belonging to two different anthers.

This has, I believe, been known for some years as an inhabitant of the stoves in this country; but I am not aware that it has ever produced flowers with us, except at the Liverpool Botanic Garden, whence specimens were sent to me in that state by my often-mentioned friends, the Messrs. SHEPHERD, in the month of September 1828. Its treatment is the same as that of the parasitical orchideous plants, and it is by no means difficult of cultivation.

Two species only of the Genus are known; the one DISCHIDIA *nummularia*, a native of Amboyna and the tropical parts of New Holland, and the subject of our present plate, which is, according to Mr. COLEBROOKE, a native of Silhet, where it is named like other parasites, *Paráŕúhá*.

It was introduced by Mr. M. R. SMITH to the Calcutta Botanic Garden, and thence to the gardens of Europe.

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* Fig. 1. Single Flower. 2. Corona staminea. 3. One of the segments of the Corona Staminea. 4. Two Cells of one Anther; one of the Cells being empty; the other filled with a Pollen Mass, whose Pedicel is connected by a Gland to the Pollen Mass belonging to the nearest Cell of the adjoining Anther.—*Magnified.*

W.Hl del.t — Pub by S.Curtis, Walworth, June 1. 1829. — Sowerby

PLUMBAGO RHOMBOIDEA. RHOMBOID-LEAVED LEAD-WORT.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord. — PLUMBAGINEÆ.)

Generic Character.

Cal. plicatus, 5-dentatus. *Cor.* monopetala, hypocrateriformis, limbo 5-partito. *Stam.* 5, hypogyna. *Stylus* 1, filiformis. *Stigmata* 5, acuta. *Capsula* valvata. *Semen* albuminosum. *Br.*

Specific Character.

PLUMBAGO * *rhomboidèa ;* annua, caule terete, foliis rhomboideis inferne in petiolum alatum ad basin auriculatum amplexicaule attenuatis, spicis paucifloris, bracteis calicybusque glandulosis.

DESCR. Plant annual, one to one and a half foot high, erect, branched, the stem and branches erect, terete. *Leaves* large in proportion to the size of the plant, rhomboid, quite entire, glabrous, veined, tapering into a long, winged, petiole, whose very base is auriculated and embraces the stem : upper leaves smaller, and less distinctly auriculated. *Spikes* terminal, of a few remote flowers, each subtended by a single glandular bractea, which is small and oblong. *Calyx*

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* From *plumbum*, lead ; as Sir JAMES SMITH suggests, on account of the dark hue of the leaves of PL. *europæa ;* but PLINY says the *Plumbago* is a plant which cures a disease in the eye called *Plumbum*, and that hence it derives its name : whilst THÉIS assures us, that our *Plumbago* is employed in curing the tooth-ache, but that it at the same time imparts a *leaden* colour to them. In French it is called *Dentelaire*.

Calyx oblong, green, somewhat plicate, five-cleft; the teeth or segments erect, rather obtuse, clothed with large brown, pedicellated glands. *Corolla* hypocrateriform: *tube* slender, purple, more than twice as long as the calyx: *limb* of five spreading, oval, acute, deep bluish-purple segments, with a dark line down the centre of each. *Stamens* five, as long as the tube, hypogynous. *Filaments* slender to the very base. *Anthers* oblong, two-celled, purple. *Pistil* as long as the tube of the corolla. *Germen* ovate, green, glabrous: *Style* filiform: *Stigmas* five, small, linear. Raised from seeds sent to the Glasgow Botanic Garden.

It is cultivated in the stove; and the flowers, though small, have a very pretty effect, from their extremely rich color.

With us it blossomed in the month of September.

Fig. 1. Flower. 2. Pistil. 3. Stamen.—*Magnified.*

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W.J.H. del.ᵗ — Pub by S. Curtis. Walworth. July 1. 1829. — Swan

Clarkia pulchella. Beautiful Clarkia.

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Class and Order.

Octandria Monogynia.

(Nat. Ord.—Onagrariæ.)

Generic Character.

Cal. superus 4-partitus reflexus, sæpe laciniis cohærentibus. *Pet.* 4, unguiculata, æstivatione convoluta. *Stam.* alterna sterilia, antheris demum reflexis. *Stigma* 4-lobum, petaloideum. *Capsula* cylindracea, sulcata, 4-locularis, 4-valvis. *Semina* adscendentia, nuda.

Specific Character and Synonyms.

Clarkia * *pulchella;* petalis trilobis.
Clarkia pulchella. *Pursh Fl. Am. Sept. v.* 1. *p.* 260. *t.* 2. *Nutt. N. Am. Gen. v.* 1. *p.* 249. *Bot. Reg. t.* 1100. *De Cand. Prodr. v.* 3. *p.* 52.
(β.) petalis minus profunde lobatis magis denticulatis.

Descr. An annual plant, about a foot high, every where slightly pubescent, least so on the old leaves, most so on the stems, which are cylindrical, branched upwards. *Leaves* four to five inches long, linear-lanceolate, acuminate, sessile, the midrib distinct, but the veins obsolete. *Flowers* large, solitary, handsome, from the axils of the leaves, especially the upper ones, on short footstalks. *Calyx* superior, reflexed, of four lanceolate, deep segments, which generally cohere by the margins, at length frequently separating and turning brown. *Petals* large, of a beautiful purple rose-colour, cruciate: *claw* long, slender, with a reflexed

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* So named by Pursh, in honor of Captain Clark, who traced the course of the Missouri in company with Captain Lewis.

N. 2919.

Pub by S. Curtis. Walworth. July 1. 1829.

Nicotiana acuminata. Acuminated-leaved Tobacco.

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Class and Order.

Pentandria Monogynia.

(Nat. Ord.—Solaneæ.)

Generic Character.

Cal. tubulosus, 5-fidus. *Cor.* infundibuliformis, vel hypocrateriformis, limbo plicato. *Capsula* apice 4-dentata, placentis ad dissepimentum transversis. *Spr.*

Specific Character and Synonym.

Nicotiana *acuminata;* herbacea, pubescens, foliis lato-lanceolatis acuminatis undulatis sublonge petiolatis, paniculis paucifloris, calyce glanduloso-pubescenti laciniis angustis, corollæ tubo elongato, limbi laciniis rotundatis obtusis.

Petunia acuminata. *Graham in Edinb. New Phil. Journ. July,* 1828, *p.* 378.

Descr. *Root* perennial? *Stem* herbaceous, erect, terete, pubescent, branched. *Leaves* remote, broadly-lanceolate, sometimes almost ovate, acuminate, waved at the margin, nerved, slightly pubescent, entire, petiole. *Petiole* slender, about an inch long. *Panicle* terminal, few-flowered, flowers naked or having a leaf or bractea at their base. *Pedicel* short. *Calyx* ovate, with five unequal, narrow teeth, which run down and form so many ribs to the glanduloso-pubescent, and almost colourless tubular portion. *Corolla* about three inches long. *Tube* a little curved, green, striated, a little enlarged upwards: *Limb* rather small, of five, nearly-equal, rounded, white lobes, blunt, or even emarginate, marked with a few green lines. *Style* filiform, as long as the

the tube. *Germen* two-celled. *Stigma* thickened, two-lobed, green. *Capsule* enclosed by the calyx, ovate.

Communicated in June, 1828, by Dr. GRAHAM, from the Edinburgh Botanic Garden, where it was raised, having been sent from Mendoza, by Dr. GILLIES. Hitherto it had been treated as a greenhouse plant: but Dr. GRAHAM conjectures that it will thrive better in the open border.

PETUNIA seems to differ from NICOTIANA in little else but its irregular corolla, which being wanting here, I have reluctantly differed from my valued friend, who has hitherto alone described this species, in considering it not to be of that Genus.

Fig. 1. Pistil and Calyx. 2. Section of an advanced Germen. 3. Capsule invested by the Calyx.—*Magnified.*

—W.J.H. del.!—

Pub by S. Curtis. Walworth. July 1. 1829.

—Swan Sc—

Begonia semperflorens. Free-flowering Begonia.

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Class and Order.

Monœcia Polyandria.

(Nat. Ord.—Begoniaceæ.)

Generic Character.

Masc. *Cal.* o. *Cor.* polypetala, petalis plerumque 4, inæqualibus.

Fœm. *Cal.* o. *Cor.* petalis 4—9, plerumque inæqualibus. *Styli* 3, bifidi. *Caps.* triquetra, alata, trilocularis, polysperma.

Specific Character and Synonyms.

Begonia *semperflorens;* glaberrima, foliis ovato-rotundatis inæqualibus vix cordatis planis apiculatis, minute serratis subciliatis, capsulæ alis valde inæqualibus, maxima triquetra obtusissima.

Begonia semperflorens. *Lodd. Bot. Cab. t.* 1439. *Graham in Ed. New Phil. Journ. May,* 1829.

Descr. *Stem* erect, rather thick, terete, fleshy, glabrous, reddish green, scarcely, if at all branched. *Leaves* alternate, remote, plane, ovato-rotundate, obtuse at the base, rarely a little cordate, unequal, apiculate, the margins minutely serrated, more or less ciliated at the margin, the color pale green, the surface particularly smooth, and free from hairiness. *Petiole* long, reddish, channelled: at the base of each are two large, ovato-oblong, deciduous, ciliated, brownish stipules. *Peduncles* axillary and terminal. *Male Flowers* with two large, rounded, and two small, oblong or linear, rose-coloured petals: *Female,* with five small, unequal petals, of the same colour. *Capsule* greenish brown, membranous

membranous, reticulated, having three very unequal wings; two small, narrow, and equal in breadth throughout, while the third forms a large, triangular, very projecting and obtuse membrane.

The nearest ally of this species is, probably, the *B. spathulata* of Willdenow; but there, the leaves are far more concave, not apiculated, the stipules are larger, and the larger wing is acute. The present species was sent to the Liverpool Botanic Garden, by Charles Chamberlayne, Esq. from Brazil, and flowered in October, 1828.

I have seen this species cultivated in gardens in Britain, under the names of B. *setaria* and B. *sellovii*.

W. J. H. del.

Pub. by S. Curtis, Walworth, July 1 1829.

Swan.

Ligustrum nepalense, β *glabrum*. Nepal Privet, glabrous *var*.

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Class and Order.

Diandria Monogynia.

(Nat. Ord.—Jasmineæ.)

Generic Character.

Cal. exiguus 4-dentatus. *Cor.* infundibuliformis limbo 4-lobo. *Bacca* 2-locularis, 4-sperma. *Spr.*

Specific Character and Synonyms.

Ligustrum * *nepalense*; foliis ovatis vel oblongo-ovatis acuminatis subtus villosis; panicula terminali villosa e racemis suberectis densis. *Wall.*

Ligustrum nepalense. *Wallich in Fl. Ind. v.* 1. *p.* 151.

Ligustrium spicatum. *Hamilton MSS. Don. Prodr. Fl. Nep. p.* 107.

(β.) foliis paniculisque glabris. *Wall. in Fl. Ind. v.* 1. *p.* 152. (nobis Tab. 2921.)

Descr. From three to four feet high, as cultivated in the greenhouse of our Botanic Garden, much branched, the branches rounded with small, scattered warts; the younger ones glabrous. *Leaves* opposite, from one to three or four inches in length, oblong, sometimes approaching to ovate, dark green, coriaceous, glossy, waved, quite glabrous, entire at the margin, acuminate, petiolate. *Petiole* rather short, thick, reddish, grooved above. *Panicle* terminal; branches tetragonal, brachiate; flowers on each branchlet forming a clustered spike: glabrous. *Calyx* small, four-toothed, slightly

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* From *ligare*, to bind, from the use sometimes made of its soft and pliant branches.

slightly scabrous, with four minute, imbricated bracteæ at the base. *Corolla* with the tube so short as to be almost rotate, deeply four-cleft, white, the segments, ovate, recurved. *Stamens* two, opposite: *Filaments* rather thick, white. *Anthers* short, oblong: *Cells* remote, opening laterally. *Pistil: Germen* roundish, ovate, green: *Style* shorter than the germen, cylindrical, purplish: *Stigma* capitate.

"A native of the mountains of Nepal, where it is called *Goom-gacha*, and where it grows to be a considerable tree, producing profuse clusters of white, sweet-smelling flowers from April to June, which are succeeded by small, oval, berries, of a beautiful blue colour, and covered with a beautiful bloom," as remarked by Dr. Wallich, to whom our Glasgow Botanic Garden is indebted for the living plant. This flowered with us in August, 1828.

The more common state of the plant in its native country is to have the panicle and leaves below hairy.

Dr. Wallich seems to consider it possible, that the Lig. *sinense* of Loureiro may be the same, and observes, that L. *japonicum*, Thunb. and *lucidum* of Aiton, are allied to it.

Fig. 1. Front view of a Flower. 2. Back view of ditto. 3. Calyx and Pistil. 4. Anther. 5. Section of the Germen.—*Magnified.*

N. 2922.

Pub by S. Curtis. Walworth. July 1. 1829.

Acacia lanigera. Woolly-podded Acacia.

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Class and Order.

Polygamia Monœcia.

(Nat. Ord.—Leguminosæ.)

Generic Character.

Flores polygami. *Cal.* 4—5-dentatus. *Petala* 4—5, nunc libera, nunc in corollam 4—5-fidam coalita. *Stam.* numero varia, 10—200. *Legumen* continuum. *D C.*

Specific Character and Synonyms.

Acacia* *lanigera;* floribus capitatis, capitulis axillaribus, geminis, multifloris; stipulis subulatis, herbaceis, marcescentibus; phyllodiis lanceolato-falcatis, multinerviis, ramulisque lanatis.

Acacia lanigera. *Cunningham in Field's Geographical Memoirs on New South Wales, p.* 345. *Graham in Ed. New Phil. Journ. Jan.* 1829, *p.* 385.

Descr. *Shrub* erect, aphyllus; *branches* scarcely angled, erect; *bark* brown and wrinkled, on the young shoots woolly. *Leafstalks (phyllodia)* two and a half inches long, four lines broad,) lanceolato-falcate, curved downwards, nerved, spreading, stiff, dull green, somewhat woolly, having one gland towards the base on the upper edge, mucronate, mucro rigid, afterwards withering. *Stipules* small, subulate, withering. *Capitula* geminate (sometimes solitary at the points of the branches), axillary, globular, flowers in each numerous, one spreading to each side on a *peduncle,*

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* Ακαχια in Greek, (from ακαζω, *to sharpen*) applied to some thorny plants.

peduncle, which is as long as the stamens, and slightly villous. *Bracteæ* ovate, villous, ciliated, marcescent, one sheathing the base of each peduncle, another below each flower, the latter attenuated at the base, and more delicate than the former. *Calyx* colourless, transparent, adpressed, five-cleft, segments blunt, ciliated. *Corolla* smooth, twice as long as the calyx, five-cleft; tube transparent, colourless; limb yellowish, spreading, segments pointed, concave. *Stamens* (three lines long) yellow; anthers small, bilobular; lobes round, bursting by a transverse line on their outer sides. *Pistil* wanting in most of the flowers, yellow; *stigma* minute; *style* rather longer than the stamens, oblique; germen obscurely pubescent, oval. GRAHAM.

This plant was received at the Edinburgh Botanic Garden through the kindness of Mr. AITON, from the Royal Garden at Kew, in the beginning of 1828. It had been sent there by Mr. CUNNINGHAM under the name now given; and Mr. CUNNINGHAM says of it, in Field's Memoirs, that it is "a shrub frequent on rocky barren ranges in the interior," between the colony of Port Jackson and the settlement of Bathurst. It flowered freely in January and February.

This species probably bears a great resemblance to A. *multinervia*, D C. only known to me, however, by the descriptions in his Memoirs on the LEGUMINOSÆ, and in the Prodromus; but it differs in being provided with stipulæ, and in the young branches being less angular. The peduncles, too, are probably longer, and the marginal gland, perhaps, nearer the base of the phyllodium. Further, the woolliness of the phyllodia, and more particularly of the young branches, could scarcely have been overlooked; and as it is not mentioned, I presume it is wanting in A. *multinervia*. GRAHAM.

— W.J.H. del.? —

Pub by S. Curtis. Walworth. July 1. 1829.

— Swan Sc —

ERIGERON GLABELLUM. SMOOTHISH-LEAVED ERIGERON.

Class and Order.

SYNGENESIA SUPERFLUA.

(Nat. Ord. — COMPOSITÆ.)

Generic Character.

Involucrum imbricatum. *Receptaculum* nudum. *Flosculi* radii ligulati angustissimi. *Pappus* pilosus seu scaber.

Specific Character and Synonyms.

ERIGERON * *glabellum ;* foliis lanceolatis integerrimis glabris ciliatis, radicalibus subspathulatis nervosis, caule involucroque pubescentibus, floribus subcorymbosis, radiis (purpurascentibus) numerosis angusti linearibus.

ERIGERON glabellum. *Nutt. Gen. of N. Am. Pl. v. 2. p.* 148. *Richardson in Frankl. First Journ. ed. 2. App. p.* 30. *Spreng. Syst. Veget. v. 3. p.* 519.

DESCR. *Root* perennial, somewhat creeping, throwing out radicles from beneath. *Stems* from six to eight inches to a foot high, erect, herbaceous, below purple, green and pubescent and somewhat angular above, where it branches into four to six flower-stalks. *Leaves :* those springing from near the root the longest, spathulate, tapering downwards gradually into a footstalk, the rest sessile, lanceolate scarcely

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* From ἐρι, *early* (from ἠρ, *spring*) and, γερων, *an old man ;* in other words, which grows old early in the season. The name was given by the Greeks to the Genus SENECIO, and by more modern writers, to our present Genus, as allied to it.

scarcely decurrent, somewhat acute, all of them quite entire, glabrous, ciliated at the margin, and the midrib beneath, sometimes pubescent, nerved; the *nerves* almost parallel with the midrib, anastomosing. *Peduncles* two to four inches long, single flower: *flower* large, handsome. *Involucre* hemisphærical, of many subulato-lanceolate, pubescent, closely imbricating scales. *Florets* of the ray very numerous, exceedingly narrow, linear, purple, *female*, but apparently abortive, bidentate at the extremity. *Germen* oblong, crowned with a pappus of few rough hairs; *Style* longer than the tube of the floret: *Stigma* bipartite; segments filiform, much spreading. *Florets* of the disc yellow, tubular, five toothed, perfect. *Germen* oval-oblong, rough at the margin. *Pappus* sessile, rough, of few hairs. *Anther* scarcely protruded. *Stigma* bipartite; its segments somewhat incurved.

There are few Genera, even in the Natural Order of Compositæ, whose species are so difficult to determine as those of Erigeron. Of the present individual, I can confidently say, that it is the E. *glabellum* of Richardson in Franklin's Journal, and that it accords sufficiently well with the description of Nuttal, who discovered it on the plains of the Missouri, especially about Fort Mandan, in great abundance. Dr. Richardson gathered it in the woody country of British N. America, between the latitudes 54° and 64° North, and Mr. Drummond, in the second overland Arctic expedition, under the command of Captain Franklin, found it in the prairies among the rocky mountains, and on the plains of the Saskatchawan. From seeds brought home by that zealous Botanist, our plants were raised at the Glasgow Botanic Garden. They flowered in the autumn of 1828, and continued in blossom until Christmas.

Fig. 1. Floret of the Ray. 2. Floret of the Disc. 3. Portion of a hair of the Pappus.—*Magnified.*

Pub by S. Curtis. Walworth. July 1. 1829.

— W.J.H. del.ᵉ —

— Swan. sc —

GILLIA GRACILIS. SLENDER GILLIA.

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Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord. — POLEMONIACEÆ.)

Generic Character.

Cal. campanulatus, 5-fidus. *Cor.* infundibuliformis vel hypocrateriformis, quinquefida. *Stam.* fauci inserta. *Stigma* trifidum. *Capsula* 3-locularis, 3-valvis, loculis mono-di- polyspermis.

Specific Character and Synonym.

GILLIA *gracilis;* glanduloso-pubescens, caule valde ramoso, foliis lineari-oblongis obtusis, calycis segmentis longis subulatis.

COLLOMIA gracilis. *Douglas MSS.*

DESCR. *Plant* much branched, annual, every where, as is the whole plant, clothed with short, glandular hairs. *Branches* not unfrequently opposite. *Leaves:* those of the stem opposite, those of the branches frequently alternate, linear-oblong, obtuse, the lower ones inclining to spathulate, costate, and obscurely nerved. The leaves continue upon the branches up to the flowers, where they become small, and under each calyx become bracteæ. *Flowers* crowded towards the extremity of the branches, at length elongated into a raceme. *Calyx* cylindraceo-campanulate; the tube white, thin, and membranaceous, with five long, awl-shaped, straight, teeth, which run down the tube and form five broad, green nerves, and clothed with black glands. *Corolla* hypocrateriform. *Tube* long, yellowish. *Limb* of five patent, rose-coloured, oval segments. *Stamens* inserted within the tube, unequal in their insertion

tion. *Filaments* short, white. *Anthers* oblong, yellow. *Pistil: Germen* oval, green: *Style* filiform, white: *Stigmas* three, pubescent. *Capsule* enclosed in the dry and much enlarged, husky calyx, whose teeth are now spreading; three-valved, three-celled, three-seeded. *Seed* semi-oval, brown.

Discovered by Mr. David Douglas "on light soils, on the banks of the Spoken river, and on high grounds near Flathead river, in North-West America, flowering in May and June: and by him introduced to the gardens of the Horticultural Society, where it flowered in 1827 and 1828. From thence, the specimens here figured were liberally communicated.

Fig. 1. Flower. 2. Stamen. 3. Pistil. 4. Calyx, including the ripe Fruit. 5. Capsule. 6. Section of ditto. 7. 8. Seeds.—*Magnified.*

Pub. by S. Curtis, Fulwell, 1st July 1832.

Clerodendron emirnense. Small-flowered Madagascar Clerodendron.

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Class and Order.

Didynamia Angiospermia.

(Nat. Ord.—Verbenaceæ.)

Generic Character.

Cal. 5-fidus (nunc 5-dentatus). *Cor.* tubo cylindrico; limbo 5-partito, patenti, laciniis subæqualibus. *Stam.* juxta faucem inserta, exserta, adscendentia: antherarum loculis parallelis. *Bacca* pyrenis 4, monospermis. *Br.*

Specific Character and Synonym.

Clerodendron * *emirnense;* foliis oppositis ternatisque ovatis acutis basi in petiolum brevem attenuatis integerrimis vel grosse serratis, corymbis terminalibus, corollæ tubo gracili staminibus duplo breviore, dentibus calycinis minutis.

Clerodendron emirnense. *Bojer MSS.*

Descr. A much branching shrub, from ten to twenty feet high, subject to much variation in the stems and leaves. The branches sometimes opposite, sometimes verticillate, elongated, flexuose, dotted, and slightly pubescent. *Leaves* in the younger plants or branches, opposite, in the older ones ternate or quaternate, from one to two inches or more in length, ovate or oblongo-ovate, shortly acuminate, entire or grossly serrated, the base attenuated into a short petiole,

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From κληρος, *lot,* or *fortune,* and δενδρον, *a tree;* and given to this Genus in allusion to the salutary or dangerous effects of the different species which constitute it. Thus, the Cl. *fortunatum* is useful in medicine; while the Cl. *calamitosum* and *infortunatum* are the reverse. Thèis.

petiole, above dark green and minutely scabrous, beneath paler, veined. *Corymbs* of flowers terminal, of a pale purplish or flesh colour, almost white. *Peduncles* much branched, pubescent, and the pedicels bearing two or three linear bracteæ. *Calyx* persistent, short, with five, small acute teeth. *Corolla* salver-shaped: the *tube* long, curved; *limb* of five, nearly equal, spreading lobes. *Stamens* four, inserted just within the mouth of the tube; two a little shorter, and reaching to twice the length of the tube of the corolla. *Style* a little shorter than the stamens: *stigma* acute. *Berry* glabrous, globose, included within the somewhat enlarged calyx, yellowish, four-seeded.

Discovered by Professor Bojer in waste and mountainous places about Tananarivou, the capital of the province of Emirne, in the interior of Madagascar. Seeds were communicated by that gentleman and by C. Telfair, Esq. to Mr. Barclay, at Bury Hill, in whose stove the plants produced blossoms in the month of February, 1824. From these our drawing was made: but it is only fair to observe, that I have lately received from Mrs. Telfair a beautiful drawing of this plant, made in the Mauritius, from which it is evident, that the plant as it advances in age becomes larger in all its parts, especially in the leaves, which are twice or thrice the size of those here figured.

I have adopted the name communicated to Mr. Barclay along with the seeds, by Mr. Bojer.

Fig. 1. Flower. 2. Fruit. 3. Section of the Fruit.—*Magnified.*

Dr Greville del.

Pub. by S. Curtis, Walworth, Aug.t 1829.

Swan Sc

BONATEA SPECIOSA. SHOWY BONATEA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord. — ORCHIDEÆ.)

Generic Character.

Corolla 5-petala, ringens, petalo superiore fornicato. *Labellum* basi subtus calcaratum. *Stylus* alatus. *Antheræ* loculamenta ad marginem alæ styli. *Willd.*

Specific Name and Synonyms.

BONATEA * *speciosa.*

BONATEA speciosa. *Willd. Sp. Pl.* iv. *p.* 43. *Persoon, Synop. Pl.* ii. 506. *Lodd. Bot. Cab. t.* 284. *Sprengel, Syst. Veget.* iii. 694.

ORCHIS speciosa. *Thunb. Prodr. p.* 4. *Linn. Suppl.* 401. *Swartz, Act. Holm.* 1800, *p.* 206.

DESCR. "*Roots* fascicled." Whole *plant* (one and a half foot high) erect. *Stem* jointed, joints swelling a little upwards, round. *Leaves* (four inches and a half long, two broad), sheathing, ovate, spreading on all sides, undulate, reflected at the apex, coriaceous, smooth and shining, deep green above, lighter and irregularly stained with rusty spots below, collected towards the upper part of the stem, the lower part of which is only cased in black, decayed sheaths; middle-rib strong, and prominent behind, with four to eight much smaller lateral nerves. *Spike* (seven inches long, five broad) terminal, erect, many-flowered. *Bracteæ* large, pale green, ovate, attenuated at the base, acuminate, smaller upwards. *Flowers* ascending obliquely on all sides, nearly sessile; their perfume somewhat resembling that of the orange flower, but more faint. *Outer Perianth* of three, membranous, nerved, pointed, green segments; of which the upper is cucullate, the two lower ovate, oblique, spreading, undulate, reflected at the apex, and whitish on their inner side. *Inner Perianth* three-parted; the two upper segments narrow, membranous, linear, pointed, green, as long as the cucullate portion of the outer perianth, along the edges of which they are laid, and each has, arising from its upper edge near the base, a filiform, erect, straight, white appendage, about half as long as itself. Lower segment *(labellum)* fleshy, unequally divided into five; the lateral portions separated to the base, are spreading, falcate,

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* So named by WILLDENOW, in honor of BONATO, a celebrated Botanist, and Professor at Padua.

cate, acute, pure white, the reflected apex tipped with green, the inner part thick and fleshy, the outer, especially towards the apex, reduced to a thin edge; below these, and rather less deeply separated, are two white, shorter segments, of similar structure to them, but, from their thin edge being convolute, they appear like two parallel, nearly straight cylinders, distilling honey from their extremities, and projecting downwards upon the surface of the central lobe, which is the longest of any, and is cleft into three long, green, linear, flexuose segments; while from its base, in the centre of the flower, rises a short, white, blunt, slightly curved, cylindrical tooth, round which, and round the mouth of the spur, a fold of the perianth passes, connecting to each other the bases of the convolute segments. The two lower segments of the outer perianth are connate at the base with the inner. Between the bases of the first and second portion of the labellum, there is on each side a short, broad, subcrenate, fleshy scale. *Spur* (an inch and a quarter long) blunt, flattened, nearly straight, shorter than the germen, green. *Stamen* green, cucullate, placed under the hood of the outer perianth. *Pollen-Masses* two, marginal, spathulato-elliptical, flattened bi-parted, yellow, granular, on long, elastic pedicels, which enlarge at their upper extremities, and arise from a little adhesive scale, which, as in other ORCHIDEÆ, attaching itself firmly to any body that is brought into contact with it, causes the pollen-mass to be readily drawn from the flower; segments of the pollen-mass somewhat concave on their inner side, granules large, loose, and attached only to the outside of the segment. *Anther-cases* greatly attenuated at their bases, projecting forwards like two teeth in the middle of the flower, partly covered by the reflected edge of a white, ciliated cucullus, which rises in front of the anther-case, and is much larger than it. This investing fold of its edge passes backwards, and terminates on each side in the fleshy scale, between the base of the first and second segments of the labellum. *Germen* (about two inches long) longer than the spur, green, twisted, unilocular. *Ovula* minute, very numerous, white, naked, forming two waved lines nearly the whole length of the germen, on each of three parietal receptacles.

This rare plant, the solitary species of a genus presenting a very complicated form of flower, is a native of the Cape of Good Hope. Here, and I suspect in other cases among the *Orchideæ*, the sudden abstraction of the pollen-mass, by the adhesion of the scale at the base of its pedicel to the finger of the examiner, has given rise to the belief that it starts out from an elastic power. The pedicel, when forcibly extended, contracts from elasticity, but never forces the pollen-mass from its case, otherwise than by dragging it after a substance to which the scale at its base had adhered.

The specimen described was kindly communicated to the Royal Botanic Garden, Edinburgh, by Mr. AITON, from the rich collection at Kew, in 1826. It has been always kept in the stove, in soil containing a large proportion of peat, and flowered very freely both last year and this in March and April. The flowers remain expanded for a considerable time. *Graham.*

Fig. 1. Flower, from which the three outer Segments of the Perianth are removed. 2. Column of Fructification and Anther. 3. Section of the Column and of the base of the Spur. 4. Anther and Stigma. 5. Pollen-Mass.—*Magnified.*

W.J.H. del.

Pub by S. Curtis, Walworth Aug.t 1824.

Maxillaria Harrisoniæ. Mrs. Harrison's Maxillaria.

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Class and Order.

Gynandria Monandria.

(Nat. Ord.—Orchideæ.)

Generic Character.

Perianthium patens, resupinatum. *Labellum* cum processu unguiformi columnæ articulatum, trilobum. *Foliola* lateralia *exteriora* basibus cum processu columnæ connata. *Pollinia* 4, basibus connata, glandulosa (vel 2, pedicellata, pedicello basi glanduloso.) *Herbæ parasiticæ, bulbosæ, Americæ meridionalis.* Racemi (*vel* scapi uniflori), radicales. *Lindl.*

Specific Character and Synonyms.

Maxillaria * *Harrisoniæ;* foliis solitariis lanceolatis plicatis, racemo bifloro, perianthio maximo cerino patente, labelli venosi disco glanduloso-piloso, lobis recurvis crispis. *Lindl.*
Maxillaria Harrisoniæ. *Bot. Reg. t.* 897.
Dendrobium Harrisoniæ. *Hook. Ex. Fl. t.* 120.
Colax Harrisoniæ. *Spreng. Syst. Veget. v. 3. p.* 727.

Descr. This beautiful plant, which I had the pleasure of naming in compliment to Mrs. Arnold Harrison, of Aigburgh, has an oblong, attenuated bulb, clothed at the base with a coarse reticulated sheath, and having at the extremity a lanceolate, somewhat waved leaf. *Scape* radical, bearing two flowers and the rudiment of a third, jointed, with

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* Named by Ruiz and Pavon from the resemblance of the Labellum to the jaw of an animal.

with sheathing scales at the joints. *Flowers* very large and handsome. The three outer segments of the *corolla* are spreading, oval, the two lower ones united for their whole length at the back, and tapering down into a sharpish point, which embraces the lower part of the corolla, with its involute margins. The color of the three outer segments is yellow brown, tinged more deeply at the extremity: the two inner ones are rather smaller than the outer, yellowish, all of them rather thick and fleshy. *Lip* large, standing nearly erect, and parallel with the column, narrow at the base, and yellowish, broad upwards, cut into three large lobes, beautifully, marked with purple veins and pubescent; of these the two lateral lobes are incurved, the extreme one waved, recurved, and obscurely two-lobed. Within, the lip is wholly striated with red lines, except in the middle, where is a large orange-coloured gland, and hairy. *Column* long, adnate for nearly its whole length, and uniting together the base of all the petals. *Anther* operculiform, 2-celled. *Pollen Masses* in two pairs, each pair consisting of a larger and a smaller one, attached to the extremity of a bifid, large, white, gland, having a duplicature at the base. *Germen* long, cylindrical, or a little thickened upwards, scarcely striated.

Mr. Lindley has rightly determined this plant to belong to the Genus Maxillaria. As to the species, it varies with one or two flowers on the scape, and these flowers are certainly among the largest of the Genus. They yield too, a faint scent resembling that of the Primrose. I had overlooked in my figure in Exotic Flora, the gland at the base of the pollen-masses, which, indeed, adheres so closely to the top of the column, that it is not easily separated. It is, however, remarkable for its great size.

Fig. 1. Lip. 2. Upper side of the Pollen-Masses and Gland. 3. Underside of ditto.—*Magnified.*

W. J. H. del.

Pub. by S. Curtis, Walworth, Aug.st 1.1829.

Neill.

Acacia Oxycedrus. Downy-stemmed Acacia.

Class and Order.

Polygamia Monœcia.

(Nat. Ord.—Leguminosæ.)

Generic Character.

Flores polygami. *Cal.* 4—5-dentatus. *Pet.* 4—5, nunc libera, nunc in corollam 4—5-fidam coalita. *Stam.* numero varia, 10—200. *Legumen* continuum, exsuccum, bivalve. *D C.*

Specific Character and Synonyms.

Acacia * *Oxycedrus;* stipulis subulatis, petiolis lanceolatis acuminato-pungentibus sparsis glabris trinerviis eglandulosis, spicis axillaribus solitariis, floribus 4-fidis, ramis velutinis.

Acacia Oxycedrus. *Sieb. Pl. Exs. Nov. Holl. n.* 457. *De Cand. Syst. Veget. v.* 2. *p.* 453. *Spreng. Syst. Veget. v.* 3. *p.* 136.

Acacia taxifolia. *Lodd. Bot. Cab. t.* 1225. *(non Willd.)*

Descr. An upright, growing shrub, with very downy branches, and numerous rigid, dark green, scattered, *petioles*, which are lanceolate, attenuated into a long, pungent point, glabrous, marked with three distinct and prominent nerves, destitute of gland at the margin. At the base of the petiole is a pair of subulate, soft, small, and brownish stipules. *Spikes* of flowers axillary, solitary, about two inches

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* From ακακια of Dioscorides, which was considered to be a plant of this tribe, and a kind of Thorn: or ακαζω, *to point or sharpen:* or, according to Théis, from *ac*, in Celtic, which signifies *a point.*

inches long, yellow. *Rachis* pubescent. *Calyx* quadrifid, having a small pubescent bractea at the base. *Corolla* quadrifid, the segments spreading. *Stamens* very numerous: *Anthers* subglobose. *Pistil*: *Germen* oval, pubescent: *Style* filiform, flexuose: *Stigma* an obtuse point.

Seeds of this plant were sent to the Glasgow Botanic Garden from New Holland by Mr. Fraser: who detected the species in the Blue Mountains. Sieber has published it among his beautiful "Specimens of New Holland Plants," under the name which I have here adopted. The Acacia *taxifolia* of Willdenow seems to be a very different plant, and a native of Cochin China.

It flowers in the greenhouse in the month of May.

Fig. 1. Single Flower. 2. Pistil. 3. Leaf, with its accompanying Stipules.—*Magnified.*

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CESTRUM ALATERNOIDES. ALATERNUS-LEAVED CESTRUM.

Class and Order.

PENTANDRIA MONOGYNIA.

(Nat. Ord.—SOLANEÆ.)

Generic Character.

Cal. tubuloso-campanulatus, 5-dentatus. *Cor.* infundibuliformis, limbo plicato, 5-fido. *Stam.* tubo inserta, subdenticulata. *Bacca* 1-locularis, polysperma.

Specific Character and Synonyms.

CESTRUM * *alaternoides;* fruticosum, filamentis denticulatis, foliis alternis ovatis undulatis coriaceis nitidis, racemis subsessilibus.

CESTRUM alaternoides. "*Cat. Hort. Par.* 70." *Hamilt. Prodr. Pl. Ind. Occ. p.* 25.

DESCR. An upright, much branched, glabrous *shrub*, having numerous, alternate, subsessile leaves, an inch and a half to two inches long, ovate, coriaceous, much waved, quite entire, obtuse, with a distinct midrib and obscure nerves, dark green above and glossy, paler beneath. *Flowers* rarely solitary, mostly in short and nearly sessile racemes, most crowded towards the extremities of the branches. *Pedicels* with a small, oblong, slightly stellato-pubescent bractea. *Calyx* nearly cylindrical, with five short, upright teeth. *Corolla* infundibuliform, pale yellow-green

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* From κεστρον, a Greek name supposed to be formerly given to the *Betony*: and the flowers of the present Genus have often the appearance of being arranged in the same way.

green, with a rather long and almost straight tube: *limb* cleft into five spreading, ovato-lanceolate segments, having the margins thickened. *Stamens* inserted just above the tube, within the faux. *Filaments* short, with a small blunt tooth at the base: *Anthers* roundish. *Germen* small, globose: *Style* filiform: *Stigma* dilated and concave.

Received at the Glasgow Botanic Garden from the late Baron de Shack, as a native of Trinidad. It seems entirely to agree with the C. *alaternoides* of Dr. William Hamilton, in the work above quoted, which is, I believe, the only one in which it has been described.

It requires the heat of the stove, and in that situation, it flowers very early in the spring.

Fig. 1. Single Flower. 2. Pistil. 3. Stamen.—*Magnified.*

James M.Tab.del.t Pub by S Curtis Walworth Aug.t 1829. Swan

STENOCHILUS VISCOSUS. CLAMMY STENOCHILUS.

Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—MYOPORINÆ. *Br.*)

Generic Character.

Cal. 5-partitus. *Cor.* ringens; *labio superiore* erecto, semiquadrifido; inferiore indiviso, angusto, deflexo. *Stam.* didynama, exserta. *Ovarium* 4-loculare, loculis monospermis. *Stigma* obtusum, indivisum. *Drupa* baccata, 4-locularis. *Semina* solitaria.

Frutices *glabriusculi; v. tomento tenuissimo cinerascentes.* Folia *alterna, sæpius integra, avenia.* Pedunculi *solitarii, uniflori, ebracteati.* Flores *purpurei v. flavicantes.* Drupæ *putamen abortione sæpe biloculare.* Br.

Specific Character and Synonym.

STENOCHILUS * *viscosus;* foliis ovato-lanceolatis serratis postice integerrimis ramulisque nitidis viscosis, floribus axillaribus solitariis. *Graham.*

STENOCHILUS viscosus. *Graham in Edinb. Phil. Journ. Jan.* 1829, *p.* 387.

DESCR. *Shrub* erect, bark brown and smooth; young branches subangular, scabrous, glutinous, green. *Leaves* (one inch and a half long,) scattered, ovato-lanceolate, subacute, coriaceous, rigid, suberect, slightly concave, glutinous, shining, bluntly and distantly serrated in their upper half

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* Στενος, *slender*, and χειλος, *a lip*. The lower lip of the corolla being peculiarly narrow.

half, entire behind, obscurely and sparingly veined, midrib blunt, and slightly prominent below. *Flowers* solitary, axillary, collected towards the extremities of the shoots, longer than the leaves. *Peduncles* three lines long, green, filiform. *Calyx* half an inch long, green, five-cleft, segments subulate, glutinous within and without, the upper broadest and longest, the two lateral ones shorter and narrower than those below. *Corolla* above an inch long, yellow, ringent, curved, pubescent both within and without, the hairs distilling from their extremities a viscid, colourless fluid, bilabiate; upper lip very broad, and folded down by the sides of the flower, four toothed, teeth subulate, those at the sides reflected, and their apices approaching behind the two in the centre, which are erect, with their apices somewhat spreading; lower lip much more narrow, linear, entire, blunt, revolute, tube inflated at its base, nectariferous. *Stamens* didynamous, arising from the inflated portion of the tube, exserted, (projecting half an inch beyond the corolla); filaments thread-like, nearly straight, yellow, inserted into the back of the anthers; anthers oblong, bilobular, with a rounded, continuous border; lobes bursting in front; pollen yellow. *Stigma* minute, blunt, cleft, greenish. *Style* purple, filiform, (four and a half lines) longer than the stamens, over which it is curved. *Germen* ovate, slightly flattened, yellow, greenish towards its apex.

This species is a native of New Holland, from whence seeds were imported by F. Henchman, Esq. and plants raised by Mr. Mackay, in his nursery at Clapton, along with many other additions to our greenhouses from the same quarter. The specimen above described was kindly communicated by him to the Royal Botanic Garden, Edinburgh, in October last. It flowered in the beginning of March. *Graham.*

Fig. 1. Flower. 2. Pistil. 3. Young Fruit, *nat. size.* 4. Section of ditto, *magnified.*

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W. J. Hood.ˡᵗʰ

Pub.by S. Curtis. Walworth. Augˢᵗ 1829

Swan So

EULOPHIA STREPTOPETALA. TWISTED-PETALED EULOPHIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord. — ORCHIDEÆ.)

Generic Character.

Petala 5, distincta, conformia, adsendentia, patentia. *Labellum* basi calcaratum ; lamina sessili, cristata, triloba, postice indivisa. *Massæ pollinis* 2, bilobæ, lobulo postiço. *Br.*

Specific Character and Synonym.

EULOPHIA* *streptopetala ;* foliis lineari-lanceolatis nervosis, scapis simplicibus, sepalis exterioribus oblongis obtusis, interioribus duplo majoribus coloratis basi tortis, labelli lobo medio rotundato (emarginato ?): calcare conico abbreviato. *Lindley.*

EULOPHIA streptopetala. *Bot. Reg. t.* 1002.

DESCR. *Bulb* (three inches long, one broad) ovate and somewhat elongated, green and smooth, but cased in the withered bases of the leaves. *Leaves* (one foot long, one inch broad), bright green, equitant, articulated above their dilated bases by which they ensheath the bulb, strongly nerved, plicate, linear-lanceolate, about seven perfect, and two or three on the outside, having the dilated bases only. *Scape* (three feet high), rising from the base of the bulb, erect, jointed, with alternate, marcescent pointed sheaths rising from the joints. *Spike* many-flowered, evolved before the leaves on the bulb which produced it decayed, and after the leaves of a new bulb had nearly attained their full size. *Bracteæ* resembling diminished sheaths, ovate, pointed, equal in length to the germen. *Flowers* single, inodorus, handsome. *External perianth* of three segments, reflected, ovate, acuminate, contracted at the base, obscurely nerved, green and irregularly spotted with brown within ; *internal perianth* of two segments, similar in form to the external, but

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* Ευ, λοφος, on account of the crest of the labellum.

but rather broader, and blunt with a smaller point, projecting forwards, nearly horizontal, bright yellow on the outside, paler within. *Labellum* articulated at the base of the column, of three segments, the two lateral the smallest, erect, broad and blunt, reflected in the edge, pale yellow on the outside, brownish within, with a few dark streaks at the base, crenate where it joins the central lobe, which is subrotund, reflected at the sides, crisped, but entire at the edge, excepting at the apex, where it is subcrenate, on the outside having nearly the same colour with the outside of the inner perianth, but darker and somewhat orange within, thicker than any other part of the perianth, all of which is somewhat fleshy, the green outer segments the least so. *Spur* very short, straight, conical, but gibbous on both sides towards the apex. *Column* projecting horizontally into the centre of the flower, nearly white, clavato-oblong, thick and fleshy, rounded above, flat below. *Anther-case* terminal, pear-shaped, emarginate, having two cysts for the pollen-masses, and in the middle of each an imperfect longitudinal septum. *Pollen-Masses* two, waxy, orange, pear-shaped, furrowed on the side next the anther-case for the reception of the imperfect septum, simple, arising by a common, thin, colourless, oblong pedicel longer than themselves, from a scale of similar appearance, oval, and glutinous. *Germen* (one inch long) rather slender, green, twisted, furrowed, flat on one side, rounded on the other.

In one of the flowers on our specimen, there is a remarkable monstrosity. One of the segments of the inner perianth is reflected, and assumes the appearance of the outer perianth, and *on each side* of the perfect anther there is an abortive but distinct appearance of *two* others, making the whole number five. Mr. Brown remarks, that the appearance of *one* abortive stamen on each side of the perfect one in many Orchideæ, brings them within the ternary arrangement so common in monocotyledonous plants; and Dr. Hooker shows, that in Epidendrum *fuscatum*, Bot. Mag. 2844, the three anthers are all perfected; but the singular monstrosity which I have noticed, would show that the tendency exists to carry our plant forward to the quinary arrangement of Dicotyledones.

We received our plant in 1828 from the garden at Kew, where so much has been done lately to extend the high reputation of that noble collection. It has been kept in the stove, and flowered in April, growing in a pot, among pieces of bark. *Graham.*

Fig. 1. Front view of a Flower, from which the Labellum is removed. 2. Labellum. 3. Pollen-Mass.—*Magnified.*

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PONTEDERIA AZUREA. LARGE-FLOWERED PONTEDERIA.

Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—PONTEDEREÆ. *Rich.*)

Generic Character.

Cor. 6-fida, ringens. *Stam.* tria longiora ori, tria basi corollæ inserta. *Stylus* declinatus. *Caps.* carnosa, trilocularis. *Spr.*

Specific Character and Synonyms.

PONTEDERIA * *azurea ;* foliis rhombeis cordatisque, petiolis incrassatis intus cellulosis.

PONTEDERIA azurea. *Swartz Fl. Ind. Occ. v.* 1. *p.* 609. *Humb. et Kunth, Nov. Gen. et Sp. v.* 1. *p.* 212. *(ed. in fol.) Willd. Sp. Pl. v.* 2. *p.* 22. *Spreng. Syst. Veget. v.* 2. *p.* 42. *Reliq. Hænk. fasc. II. p.* 116.

PONTEDERIA crassipes. *Mart. in Nov. Gen. et Sp. Bras. v.* 1. *p.* 9. *?*

DESCR. Whole plant, as cultivated in the aquarium of the stove, floating upon the surface of the water ; the *roots* not descending to the bottom ; and these are exceedingly numerous, many of them thick and fleshy, and sent out horizontally, apparently for the purpose of producing new plants, whilst others are more slender, exceedingly long, and clothed with numerous long, horizontal fibres. Every root

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* In honor of JULIUS PONTEDERA, a Professor of Botany at Padua, during the beginning of the last century.

root has a calyptrate covering at the extremity, similar to that found on the roots of the *Duck-weeds* (Lemnæ). The *Plant* is stemless; and, immediately above the roots, there rises a tuft of spreading, beautifully green *leaves*, almost entirely emersed: these *leaves* vary considerably in shape, sometimes almost rotundate, sometimes rhomboid, often quite cordate, acute, or not unfrequently obtuse at the point, having numerous nerves, which are nearly straight in the middle of the leaf, but which, towards the sides follow their curvature. *Petioles* various in length, all of them more or less thickened and inflated below the middle; the longest ones the least so: internally, they are remarkably cellular, the cells filled with air, which no doubt assist the plant in floating. At their base are sheathing, large scales, at first green, then brown. *Scape* about a foot long, having sheathing scales at and above the middle, waved at the margin, and one of these is generally terminated with one leaf, small, otherwise resembling that of the root. *Flowers* in a large, lax, and most beautiful spike; ten or twelve on each scape; and inserted upon an angular rachis. *Tube* of the *perianth* long, curved, pubescenti-glandular, white, greenish at the base, where it is jointed upon the rachis, and accompanied by a small, deciduous bractea. *Limb* of six, oblongo-obovate segments, pubescent at the base externally, the rest glabrous; the *colour* a pale delicate purple; the five lower segments nearly equal in size; the uppermost larger, with a blue cloud, or stain in the middle, and in the centre of it is an oblong, bright yellow spot. *Stamens* inserted within the tube, three short and three long, all curved upwards towards the extremity, and bearing a bluish-yellow, oblong, two-celled anther: *Filaments* of a lilac-colour, with numerous, pellucid, pedicellated glands. *Germen* superior, oblong, glabrous, green, with three furrows, tapering upwards into a long, white style, which is glandular upwards. *Stigma* capitate, glandulose, white. The number of cells in the germen is three, and the ovules are numerous, attached to the central angles of the cells without any prominent receptacles.

This most curious and beautiful of plants has, I believe, for some years been cultivated in our stoves, and was introduced by Mr. Aiton to the Royal Gardens, at Kew; and, if I mistake not, from Brazil. To that gentleman we are indebted for the possession of our plants in the Glasgow Botanic Garden, where they flowered in great perfection,

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in July, 1829, immediately on being removed from a small tub to the larger aquarium of the stove.

Every where, I believe, in our collections, this plant has been cultivated under the name of PONTEDERIA *crassipes*, in consequence of that name having been brought more immediately into notice by the beautiful figure (in SPIX and MARTIUS' Genera and Species of Brazilian plants) of his P. *crassipes*. But if that plant be constant in the colour of its flowers, as there represented, to the absence of the glands on the filaments of the stamens, and to the presence of them of a violet black colour on the germen, as there described, ours must be distinct, and is, I think, quite identical with the P. *azurea* of SWARTZ. The flowers of our plant become quite blue when dry, which may account for SWARTZ's name. HUMBOLDT describes the colour more correctly, from specimens gathered in New Grenada. Our valued friend Mr. PARKER sent us from Demerara *dried* specimens, which had the flowers apparently wholly blue; but a coloured sketch of the flower, made from the living plant, was in every respect like those here figured. HÆNKE met with the species at Guayakil, and Dr. GILLIES in pools of water at Buenos Ayres. The plant must, therefore, have a very extensive geographical range, and seems to hold the place in South America, that PONTEDERIA *cordata* does in the Northern part of that vast continent.

Fig. 1. Anther and portion of the Filament. 2. Pistil. 3. Section of the Germen. 4. Leaves and Root. 5. Detached Leaf.—All but fig. 4 and 5 more or less *magnified*.

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MITELLA PENTANDRA. FIVE-STAMENED MITELLA.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—SAXIFRAGEÆ.)

Generic Character.

Calyx 5-fidus, superus. *Pet.* 5, pinnatifida. *Stam.* nunc 5. *Stigmata* 2, sessilia. *Capsula* unilocularis, bivalvis, obtusa.

Specific Character.

MITELLA * *pentandra*; pubescenti-scabra, foliis cordato-lobatis crenatis, floribus pentandris, filamentis brevissimis, stigmatibus bilobis.

DESCR. *Root* perennial, oblique, rather thick, and throwing out numerous, branched *fibres*, bearing, at its upper extremity, many leaves, all of them radical, and interspersed with many brown, ovate, shining, membranaceous scales. The form of these *leaves* is cordate; they are lobed at the margin, with from five to seven rounded, crenated, or crenato-serrated lobes, having many scattered, or rather rigid hairs. *Petioles* generally longer than the leaves, somewhat hispid. Among the leaves, there arise from the root also, many flower-stalks or scapes, four or five times longer than the leaves, erect, slender, downy at the base, and here and there below the middle, having a few brown, concave scales. *Flowers* in racemes, which are erect, at the

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* From *mitra*, a mitre; the two-valved capsule bearing some resemblance to a little mitre.

the extremity of the scapes, which become elongated as the fructification advances to maturity. *Pedicels* very short, downy. *Calyx* having its tube obconical and adnate with the germen, downy, the limb or free portion deeply cleft into five triangular, reflected segments, green. *Corolla* of five, pectinated, yellow, reflexed *petals*, alternating with the segments of the calyx, and inserted at their sinuses, the segments few, and very slender, opposite. *Stamens* only five, inserted just at the base of the petals. *Filament* extremely short, incurved, shorter than the anther, which is subglobose, two-celled, yellow. *Germen* immersed in the tube of the calyx, its upper, and almost flattened extremity being alone free. *Stigmas* two, sessile, bilobed, downy. *Capsule* invested by the persistent calyx and petals, top-shaped, opening at the extremity between the stigmas, into two short, but very spreading valves, which lie back so much as to expose the seeds entirely, long before they are ready to be dispersed. These are attached to two opposite, longitudinal and parietal receptacles.

Raised in the Botanic Gardens both of Edinburgh and Glasgow, from seeds brought from the Rocky Mountains of North America, by Mr. DRUMMOND. The plant as may be supposed is perfectly hardy: blossoming early in June, and scattering its numerous polished-black seeds before the end of that month.

Notwithstanding the reduced number of stamens in this plant, the short filaments, and the two-lobed stigma, so entirely has it the habit and every essential character of MITELLA, that I am unwilling to separate it from that Genus. The petals are very beautiful, always reflexed, and of a rather rigid texture.

Fig. 1. Unexpanded Flower. 2. Flower fully opened. 3. Petal. 4. Stamen. 5. Capsule, with its Valves burst, and including the Seeds.—All more or less *magnified*.

Pub.by S. Curtis Walworth Sep.t 1829

DRABA AUREA. GOLDEN-FLOWERED WHITLOW GRASS.

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Class and Order.

TETRADYNAMIA SILICULOSA.

(Nat. Ord. — CRUCIFERÆ.)

Generic Character.

Silicula integra, ovalis: valvis planis v. convexiusculis; loculis polyspermis. *Semina* immarginata: cotyledonibus accumbentibus. *Filamenta* edentula. *Br.*

Specific Character and Synonyms.

DRABA * *aurea;* pubescens, caule erecto simplici folioso, foliis ovato-lanceolatis acutis integris dentatisque, corymbis terminalibus axillaribusque, siliculis oblongo-lanceolatis pubescentibus pedicello triplo- longioribus, petalis emarginatis.

DRABA aurea. *" Vahl." Horn. Fl. Dan. v. 9. t.* 1460. *De Cand. Syst. Veget. v. 2. p.* 350. *Prodr. v.* 1. *p.* 170. *Spreng. Syst. Veget. v. 2. p.* 875.

DESCR. *Root* apparently biennial. *Stem* inclined at the base, then erect, simple, stout in proportion to the size of the plant, pubescenti-hirsute, leafy. *Leaves* among the largest of the species, often an inch and more long, sessile, ovato-lanceolate, the lowermost ones crowded and slightly tapering below, the rest alternate, erecto-patent, entire, or frequently, especially in the cultivated plant, having remote

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* From δραβη, of DIOSCORIDES, a name supposed to be given to the Whitlow Grass, or to some allied plant. LINNÆUS says the word means *acrid* or *biting*.

mote teeth or serratures at the margin, acute, obscurely nerved, on both sides pubescent with branched hairs. *Corymbs* of several flowers, axillary, from the upper leaves, and terminal. The axillary flowers in the wild specimens are not unfrequently reduced to a single blossom, as represented in the Flora Danica. *Peduncles* pubescenti-hirsute, as are the pedicels, which are shorter than the calyx. *Calyx* with scattered patent hairs. *Petals* spathulate, bright yellow, notched at the extremity. *Germen* subcylindrical, with the style about one quarter its length. *Stigma* two-lobed. *Pouch* oblongo-lanceolate, the valves plane, pubescent. *Seeds* numerous.

Hitherto this species has only been known upon the authority of Vahl and Horneman as a native of Greenland. We have now the satisfaction of numbering it among the plants of the continent of North America, and likewise too, as a denizen of our gardens: it having been found by Mr. Drummond upon the summits of the Rocky Mountains; whence have been derived the seeds from which our flowering specimens were produced in the Botanic Gardens, both of Edinburgh and Glasgow.

Fig. 1. Flower. 2. Petal. 3. Stamens. 4. Pistil. 5. Pouch, with the Valves separating from the Dissepiment.

W. H. del.

Pub. by S. Curtis Walworth Sept. 1. 1829

TRADESCANTIA CRASSULA. WHITE-FLOWERED TRADESCANTIA.

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Class and Order.

HEXANDRIA MONOGYNIA.

(Nat. Ord.—COMMELINEÆ.)

Generic Character.

Cal. et *Cor.* profunde 3-partita. *Filamenta* subvillosa. *Caps.* 3-locularis. *Spr.*

Specific Character and Synonyms.

TRADESCANTIA * *crassula;* caule ascendente ramoso glabro, foliis oblongo-lanceolatis nitidis glaberrimis integerrimis nervosis vaginisque ciliatis, umbellis terminalibus, filamentis basi villosis.

TRADESCANTIA crassula. *Link in Litt. Graham in Edin. Phil. Journ. Oct.* 1828, *p.* 387.

DESCR. *Stem* three feet long, stout, succulent, ascending, rooting at the joints, smooth and shining, green, occasionally purple, especially at the joints. *Leaves* four to nine inches long, one to two broad, alternate, fleshy, oblongo-lanceolate, mucronate when young, but soon withering at the tip, bent back, slightly channelled in the middle, and reflexed at the sides, naked and shining on both sides, sheathing, ciliated, especially when young, and at the base: *sheaths* half an inch long, shortest in the upper leaves, ciliated, adpressed. *Umbels* simple, many-flowered

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* After JOHN TRADESCANT, an Englishman, and a great patron of Botany early in the seventeenth century.

flowered, axillary, peduncled, the uppermost but one generally sessile, solitary, or two together, of unequal heights; *involucrum* of two opposite, unequal, ovate leaflets, resembling the ordinary leaves of the plant. *Peduncles* one to three inches long, angular, straight, smooth, and shining. *Pedicels* full half an inch long, like the peduncles, but reflected when the flower has faded. *Calyx* of three green, boat-shaped, spreading leaflets, hairy upon the whole of their outer surface, except at the narrow, transparent, membranous edge; hairs tapering, simple, transparent, colourless, arising from slight, glandular elevations. *Corolla* little more than half an inch across, of three flat, spreading, ovate petals, pure white, and twice as long as the calyx, every where smooth. *Stamens* six, erect, shorter than the corolla; *Filaments* colourless, smooth, excepting at the base, where each is surrounded with a tuft of jointed, colourless hairs, as long as itself. *Anthers* orange-coloured, kidney-shaped, loculaments distant, bursting at the edge; *pollen* yellow. *Pistil* single, white; *Stigma* small; *Style* longer than the stamens, tapering both above and below; *Germen* obovate, trigonous, trilocular. GRAHAM.

This plant was received by Dr. GRAHAM, at the Edinburgh Botanic Garden, from Berlin, under the name of TRADESCANTIA *crassula* of LINK, in 1828, and it blossomed in the stove in the months of December and January following. We are ignorant of its native country.

Fig. 1. Bud. 2. 3. Flower. 4. Stamen. 5. A Hair from the Filament of ditto. 6. Pistil. 7. Section of the Germen.

W. J. Hdel.ᵛ

Pub.ᵈ by S. Curtis. Walworth. Sep.ᵗ 1 1829.

ANDROMEDA HYPNOIDES. HYPNUM-LIKE ANDROMEDA.

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Class and Order.

DECANDRIA MONOGYNIA.

(Nat. Ord.—ERICINEÆ.)

Generic Character.

Cal. 5-partitus. *Cor.* sub-campanulata, limbo reflexo. Antheræ bicornes. *Caps.* 5-locularis, marginibus valvarum nudis, columna centrali quinquelobo. *Spr.*

Specific Character and Synonyms.

ANDROMEDA* *hypnoides;* pedunculis solitariis unifloris terminalibus, corolla campanulata 5-fida laciniis obtusis conniventibus, stylo ovato-acuminato, foliis imbricatis pluriseriatis erectis subulatis. *Graham.*

ANDROMEDA hypnoides. *Linn. Succ. p.* 355. *Sp. Pl. v.* 1. *p.* 563. *Fl. Lapp. p.* 165. *t.* 1. *f.* 3. *Willd. Sp. Pl. v* 2. *p.* 606. *Fl. Dan. t.* 10. *Wahl. Fl. Suec. p* 450. *Spreng. Syst. Veget. v.* 2. *p.* 289. *Ait. Hort. Kew. ed.* 2. *v.* 3. *p.* 51. *Graham in Edin. N. Phil. Journ. July,* 1829. *p.* 178.

DESCR. *Stem* procumbent, much branched, every where covered with leaves. *Leaves* imbricated, erect, minutely pubescent, ciliated, subulate, flat above, rounded below. *Peduncles* (three lines long) terminal, solitary, one-flowered, red. *Flowers* drooping. *Calyx* five-parted, red, sub-acute. *Corolla* pure white, when, as in the specimens here described

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* So named by LINNÆUS after the virgin *Andromeda,* because it is attached to rocks in the midst of marshes which abound in aquatic monsters.

scribed, raised under glass; but said to be reddish in native specimens, campanulate, five-cleft, segments rounded, but having a minute mucro, and slightly connivent, three-ribbed, central rib undivided, those at the sides fainter, and branched. *Stamens* ten, connivent; filaments glandular, flat, slightly dilated below, yellowish above and below, colourless in the middle; anthers orange-brown, bilobular, lobes blunt and rounded at the terminations, pores rounded, each with two reflexed awns, much longer than itself, and diverging a little. *Pistil* rather longer than the stamens: *Germen* green, globose, scarcely lobed, wrinkled, surrounded by brownish glands at its base: *Style* articulated on the top of the germen, suddenly swollen above its base, and gradually tapering upwards: *Stigma* blunt.

This extremely pretty little plant was introduced from Canada, by Mr. Blair, into the extensive and interesting collection of Mr. Cunningham, at Comely Bank, near Edinburgh, in 1826; and this enterprising cultivator had the satisfaction of seeing the plant come into flower in his garden in May last; the first time it had been seen in Scotland, and after it had been lost in England.

Pursh and Nuttall confine the American station of this plant to the north-west coast; but this Mr. Blair did not visit. It is, therefore, more diffused in the northern parts of America, and as it is a most abundant plant in the north of Europe and Asia, it is extremely probable that it may one day in the north of Scotland reward the labour of some British botanist: for, unless when it is in flower, it may be very easily overlooked. Graham.

Fig. 1. Flower. 2. Back view, and 3, front view of a Stamen. 4. Pistil 5. Section of the Germen. 6. Leaf.—All more or less *Magnified.*

W. J. Hdel.

Pub. by S. Curtis. Walworth. Sept. 1829.

Swan Sc

OROBUS STIPULACEUS. LARGE STIPULED OROBUS.

Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. campanulatus, 5-fidus, lobis duobus superioribus brevioribus. *Cor.* papilionacea. *Stam.* diadelphia. *Stylus* gracilis, linearis, apice villosus. *Legumen* cylindraceum, oblongum, 1-loculare, bivalve. *Semina* hilo lineari. *D. C.*

Specific Character.

OROBUS * *stipulaceus ;* caule erecto angulato, superne subramoso, foliis bi-trijugis, foliolis lineari-attenuatis longissimis obscure trinerviis glabris, stipulis magnis semisagittatis.

DESCR. *Root* perennial. *Stem* erect, herbaceous, slender, acutely angular, but not winged, often entirely simple, at other times slightly branched above. *Leaves* remote, spreading, of two or three pair of opposite, very long, linear, attenuate, glabrous, leaflets : dark green above, paler beneath, with a distinct midrib, between which and the margin is a conspicuous nerve throwing out occasional branches on both sides. *Petiole* terminated by a bristle. *Stipules* large, green, semi-sagittate, obscurely nerved, quite entire

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* From ὀρω, *to excite* or *invigorate,* and βους, *an ox.* Because this or some allied Genus was so called by the Greeks on account of its yielding food for cattle.

entire at the margins. *Peduncle* terminal, or from the axil of a superior leaf, bearing at its extremity a raceme of few, but showy handsome drooping flowers. *Pedicels* short, curved. *Calyx* purple-green, very abrupt at the base, the mouth oblique, the uppermost teeth being considerably the shortest. *Vexillum* purple, with two prominent obtuse teeth near the middle, one on each side, which embrace the inner petals. *Alæ* almost blue, firmly cohering by their lower margins to the purple *carina*. *Stamens* as in O. *tuberosus*. *Style* linear, pubescent on its upper and plane surface.

The drawing of this species of Orobus was made from a plant which flowered in the Glasgow Botanic Garden in May, 1829: but whence the plant came, or how it established itself in the collection, we are ignorant. From the circumstance of its appearing among several *American* plants, Mr. Murray is of opinion it may have been introduced by accident from North America. Certain it is, that I can find no description that will accord with it, nor do I know of any with such very long leaflets. Those, too, among the described species of Orobus, which have long and narrow leaflets, have usually narrow and almost subulate stipules also.

In my Herbarium is an Orobus from M. Schleicher, under the name of O. *setiformis*, which I can only distinguish from the present plant by its smaller size and shorter leaflets: a native I presume of Switzerland. But again in Steudel's Nomenclator the O. *setiformis* of "Schleicher" is referred to the O. *canescens*, a very different species.

Fig 1. Flower. 2. Vexillum. 3. Carina and Alæ. 4. Stamens and Pistil. 5. Style.—*Magnified.*

W.J Hdel.t Pub.by S. Curtis. Walworth Oct.1.1829 Swan Sc.

CYPRIPEDIUM MACRANTHON. LARGE-FLOWERED LADY'S SLIPPER.

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Class and Order.

GYNANDRIA DIGYNIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Labellum ventricosum, inflatum (nunc saccatum). *Columna* postice terminata lobo petaloideo (stamine sterili) antheras distinguente. *Petala* 2 antica, sæpius connata. *Br.*

Specific Character and Synonyms.

CYPRIPEDIUM * *macranthon ;* lobo columnæ elongato-cordato, ore labelli perianthio brevioris contracto crenulato, antheris dorso aristatis, caule folioso, foliis glabriusculis.

CYPRIPEDIUM macranthon. *Swartz Gen. et Sp. Orchid. p.* 103. *Willd. Sp. Pl. v.* 4. *p.* 145. *Spreng. Syst. Veget. v.* 3. *p.* 745.

CALCEOLUS purpureus speciosus. *Amman. Ruth. p.* 132. *n.* 176. *t.* 21.

CALCEOLUS γ. petalis nectario æqualibus aut minoribus. *Gmel. Sib. v.* 1. *p.* 2. *t.* 1. γ.

DESCR. *Stem* simple, a span or more high, terete, jointed, pubescent, at the base having a sheathing scale, the root a good deal concealed by the long, sheathing bases of four or five leaves, which are ovate, attenuated at the base, wavy, striated, or almost plicated, downy at the margin and

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* From Κυπρος, *Venus,* and ποδιον, *a slipper, Venus's Slipper,* from the shape of the Labellum.

and on the nerves beneath, of a palish green colour. *Peduncle* terminal, enveloped by the base of a large floral leaf, glabrous. *Flower* solitary, large, very handsome, of an almost uniform purple colour, the two lateral or lowermost segments of the perianth, (which are united, except at the extremity, and adpressed to the underside of the labellum,) alone being greenish brown: Uppermost segment reflexed, large, broadly ovate: two inner ones broadly lanceolate, spreading, or slightly reflexed, dotted and hairy at the base within, and beautifully marked with deeper lines of purple. *Labellum* very large, inflated, broadly oval, striated and reticulated, the mouth contracted and crenated with a white margin: within at the base it is spotted with purple, and hairy. *Column* bent downward into the mouth of the labellum. *Anthers* large, roundish oval, deep brownish-green, two celled, bearing on the lower part of the back a softy, fleshy spur. *Abortive* one, a flat, minutely glandular disk, pedunculated: from the back of which arises the elongato-cordate, petaloid lobe, of a pale reddish colour. *Germen* elongato-clavate, sharply angular.

This beautiful species of CYPRIPEDIUM, quite new to our collections, is said by AMMAN to be found at Tobolsk, and by GMELIN, to be frequent in all Siberia, within the 58° of latitude, in open places, or in woods composed of scattered Birches.

Seeds had often been sent by Dr. FISCHER of St. Petersburg to the Glasgow Botanic Garden; but we never succeeded in cultivating the plant until last year, when roots were presented to us by the same liberal Botanist. One of these, from which the present figure and description were made, blossomed under the protection of a frame in May, 1829.

C. *macranthon* appears to be nearly allied to the C. *ventricosum*, which I only know by the figure of SWEET's Brit. Fl. Garden, New Series, t. 1. But there the two innermost segments of the perianth are much narrower, and longer than the lip, the mouth of the lip is larger, and with a small cleft at the lowest extremity, and is not so regularly notched as in our plant. The whole colour too is a deeper purple.

Fig. 1. Perianth, from which the Labellum (f. 2.) is removed. 3. Back view of the Column. 4. Front view of ditto. 5. Side view of ditto, slightly *magnified*.—Fig. 1, 2, 3, and 4, are represented of the *nat. size*.

W. J. Hooker

Pub. by S. Curtis Walworth. Oct.r 1829

Swan

FICUS RUBIGINOSA. RUSTY-LEAVED BOTANY-BAY FIG.

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Class and Order.

POLYGAMIA MONŒCIA (vel DIŒCIA).

(Nat. Ord. — URTICEÆ.)

Generic Character.

Receptaculum carnosum, clausum, apice parvum, androgynum. *Flosculi* pedicellati, 3-partiti. *Stam.* 1—3, 3—8-partiti. *Stylus* lateralis. *Semina* in pulpo receptaculi nidulantia.

Specific Character and Synonyms.

FICUS *rubiginosa ;* foliis ellipticis obtusis coriaceis basi vix cordatis, junioribus subtus præcipue ferrugineo-pubescentibus, receptaculis geminatis sphæricis cum umbone tuberculatis, pedunculo brevi, superne incrassato.

FICUS rubiginosa. *" Desf. Cat. Hort. Par.* 209." *Spreng. Syst. Veget. v. 3. p.* 782.

FICUS australis. *Willd. Sp. Pl. v.* 4. *p.* 1138. *Ait. Hort. Kew. ed. 2. v.* 5. *p.* 486.

FICUS ferruginea. *Hort.*

DESCR. A small *tree* in our stoves, throwing out many, spreading branches, and from the stem and branches numerous woody roots, which reach the ground, like those of the famous *Banyan,* and give new support to those parts. *Leaves* numerous, handsome, three to four inches long, coriaceous, elliptical, quite entire, on petioles about an inch

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* From the Latin, *ficus,* a fig.

inch long, obtuse at the point, and at the base, where there is sometimes a shallow sinus; from the midrib there branch off several parallel nerves: when young, they are covered, but especially on the underside, with a ferruginous down; the older ones are glabrous, except on the nerves beneath. *Peduncles* in pairs, from the axils of the leaves, short, thickened upwards. *Receptacle* scarcely so large as a Hazel-nut, greenish brown, globose, with an obtuse umbo at the point, the surface granulated with small tubercles. This includes many male and female flowers, each petiolated, and having two, small, lanceolate scales at its base. *Perianth* of each three-parted, the segments roundish oval, concave. *Stamen* single: *Filament* short; *Anther* reniform. *Pistil* solitary. *Germen* oval, pedicellate; *Style* lateral, filiform.

Introduced by the Right Hon. Sir Joseph Banks, in 1789, from New South Wales to the Royal Gardens, whence it has been distributed, and is, we believe, now general in collections of stove plants. Its fructification is, however, of rare occurrence. The specimen from which the accompanying figure was taken was sent by the Messrs. Shepherd, from the Liverpool Garden, in the summer of 1827.

Fig. 1. Male Flower. 2. Female ditto. 3. Receptacle of the Flowers.—All *magnified*.

W. J Hooker del.

Pub by S Curtis Walworth Oct. 1 1829.

GAILLARDIA ARISTATA. WHOLE-COLOURED GAILLARDIA.

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Class and Order.

SYNGENESIA FRUSTRANEA.

(Nat. Ord.—COMPOSITÆ.)

Generic Character.

Receptaculum paleaceum, hemisphæricum. *Pappus* paleaceus. *Involucrum* imbricatum, planum, polyphyllum. *Cor.* radii trifidæ.

Specific Character and Synonyms.

GAILLARDIA * *aristata;* pubescenti-hirsuta, foliis oblongis inferioribus sinuato-pinnatifidis, in petiolum attenuatis, superioribus sessilibus integerrimis, radio unicolore.

GAILLARDIA aristata. *Pursh Fl. Am. Sept. v. 2. p. 573. Bot. Reg. t.* 1186.

GAILLARDIA bicolor, var. *Nutt. Gen. Am. v. 2. p. 175. Spreng. Syst. Veget. v. 3. p. 618.*

DESCR. A rather tall branching *plant,* with striated stems, which are every where, as well as the leaves, more or less pubescent or hairy. *Leaves* oblong, four to six inches long, rather dark, but glaucous green: those springing from the root and lower part of the stem attenuated at the base, sinuated, sometimes often pinnatifid, the segments rounded, obtuse, the upper cauline leaves quite sessile and entire: *midrib* rather strong; nerves few, oblique. *Peduncles* long, terminal, single-flowered. *Flower* large, showy.

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* Named in compliment to a French Botanic Amateur, M. GAILLARD de CHARENTONNEAU. It is often incorrectly spelled GALARDIA.

showy. *Involucre* of many imbricated, lax, linear-lanceolate, acuminated, pubescent scales, which at length spread almost flat. *Florets* of the ray, all of a pale, uniform yellow, cuneate, trifid. *Germen* abortive, crowned with five, small, subulate, chaffy scales. *Florets* of the centre perfect. *Corolla* tubular, bright yellow, tipped with purplish red, and clothed with stout hairs or bristles of the same colour. *Anthers* purple. *Germen* oblong, green, hairy at the base. *Pappus* of five white, membranaceous, chaffy scales, which terminate in long awl-shaped points. *Stigmas* long, linear, hispid, with purple red hairs.

The principal difference between this and G. *bicolor* of our gardens, consists in the leaves being entire in the upper part of the stem, and in the ray of the flower being of one pale, uniform, yellow colour. Pursh described it from the Herbarium of Lewis, who found it in the Rocky Mountains, on dry hills. Mr. Douglas discovered it abundantly in dry soils, through a tract of country extending from the Rocky Mountains, to the Western ocean; every where retaining the characters above mentioned, which distinguish it from the G. *bicolor*. It varies in size: for intermixed with the common appearance of the plant, Mr. Douglas saw many which did not arrive to a height greater than ten or twelve inches, and having all the leaves entire. It flowers in July, and will soon become common: the seeds having been introduced by the Horticultural Society, and by them liberally dispersed among our gardens.

Fig. 1. Radical Leaf, *natural size*. 2. Floret of the Ray. 3. Floret of the Disk.—*Magnified*.

W.J.Hooker del.

Pub.by S. Curtis. Walworth. Oct.r 1829.

Swan Sc

Linaria æquitriloba. Small Fleshy-leaved Toad-flax.

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Class and Order.

Didynamia Angiospermia.

(Nat. Ord.—Scrophularinæ.)

Generic Character.

Cal. 5-partitus. *Cor.* personata, calcarata. *Capsula* bilocularis, apice dentibus dehiscens. *Semina* submarginata. *Spreng.*

Specific Character and Synonyms.

Linaria* *æquitriloba ;* pubescens, caule repente filiformi, foliis cordatis carnosis obtusissimis integris trilobisque, lobis rotundatis integerrimis subæqualibus, pedunculis axillaribus, calcare calyce breviore.

Linaria æquitriloba. *Viviani Fl. Cors. Sp. Nov. p.* 10. *(sub. non.* Antirrhini *æquitrilobi). Muller in Un. Itin.* 1827. *Spreng. Syst. Veget. v.* 2. *p.* 790.

Descr. Apparently a perennial *plant,* considerably tufted, but having the stems filiform and creeping upon the ground, much branched, the branches as well as the leaves clothed with a very fine pubescence. *Leaves* broadly cordate, very obtuse, fleshy in our cultivated specimens, quite entire; but in the wild specimens gathered by M. Muller although many of the leaves are entire, others are three-lobed, with the lobes rounded, blunt, nearly equal: petiole longer than the leaf, pubescent. *Peduncles* filiform, longer than the leaves, axillary, solitary, or two from the same point,

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* This was the specific name of a species formerly referred to Antirrhinum, *Linaria ;* from *Linum,* its leaves resembling those of Flax.

point, curved, downy. *Calyx* quinquepartite, pubescent. *Corolla* beautiful purple, personate, tube elongated, inside of the lips more inclining to blue; palate large, pale reddish-purple, pubescent.

Seeds of this beautiful little plant gathered by M. Muller on rocks at Laconi, in Sardinia, were sent by the German Travelling Society, or "*Unio Itineraria*" to Dr. Graham, in 1828; and the specimens from which the above description is taken, were raised from those seeds, and blossomed in the Edinburgh Botanic Garden, in June, 1829. The plant has hitherto been protected during winter in a frame, but in all probability it will bear our climate in a sheltered situation, and would prove a much more ornamental species than our L. *Cymbalaria*, to which it is allied in habit. Linaria *pubescens*, L. *pilosa*, and L. *hepaticæfolia* belong to the same natural groupe, distinguished by their procumbent, herbaceous, filiform *stems*, broadly cordate leaves, and axillary flowers.

Viviani, who first described this species, gives, as a station for it, moist rocks upon the mountain "della Trinita" in Corsica.

Fig. 1. Branch of L. *æquitriloba* with Flowers. 2. Single Leaf, *slightly magnified*. 3, 4, 5. Leaves from the wild Specimens in the Herbarium.—*Natural size*.

W. J. H. del.ᵛ

Pub. by S. Curtis. Walworth. Octᵒ. 1ˢᵗ 1823.

Aster salsuginosus. Salt-plain Michaelmas Daisy.

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Class and Order.

Syngenesia Superflua.

(Nat. Ord.—Compositæ.)

Generic Character.

Receptaculum nudum. *Pappus* simplex. *Cor.* radii plures 10. *Involucri* imbricati *squamæ* inferiores (nonnunquam) patulæ.

Specific Character and Synonyms.

Aster* *salsuginosus ;* caule uni pauci-floro, foliis lanceolatis acutis subintegerrimis venosis inferioribus in petiolum longe attenuatis, reliquis sessilibus, involucri squamis linearibus acutis pubescentibus subsquamosis disco vix duplo, radio plus triplo longioribus.

Aster salsuginosus. *Richard. in Frankl. 1st Journ. App. ed. 2. p. 32. Spreng. Syst. Veget. v. 3. p. 527.*

Descr. From a woody and fibrous perennial *root* spring one or more erect, simple, striated, pubescent, and purplish stems, about a foot high, leafy. *Leaves* mostly lanceolate, acute, those of the stem sessile, gradually smaller upwards, the lower ones often inclining to obovate, attenuated at the base into a long footstalk, entire, or more or less toothed, glabrous, especially on the upper surface, below often more or less hairy. *Flowers* solitary, or two or three at the extremity of the stem in luxuriant plants, large and showy. *Involucre* small in proportion to the size of the flower, purplish-

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* So named from the Star-shaped flowers.

purplish-green, its scales linear or inclining to subulate, pubescent, lax and squamose. *Florets* of the disk tubular, yellow, five-cleft. *Germen* slightly hairy, oblong, surmounted by the simple scabrous hairs of the *pappus*. *Florets* of the ray ligulate, three-toothed, purple. *Pistil* and *Pappus* as in the central florets.

This handsome species of ASTER was first detected by Dr. RICHARDSON on the Salt Plains of the Athabasca, N. America, and described in the Appendix to FRANKLIN's first Journal. Mr. DRUMMOND during the second journey found it among the Rocky Mountains, and from seeds brought home by him, our plants were raised which flowered in the Glasgow Botanic Garden, in May, 1829; and there cannot be a doubt but that so desirable a plant will soon become common in our collections. The early flowering and weak specimens produced but one flower on the stalk; but later in the season, in the month of June, from two to four blossoms were not unfrequent on the same stem. This might rather be called the *Spring* than the *Michaelmas* Daisy.

Fig. 1. Floret of the Disk. 2. Floret of the Ray. 3. Portion of the Hair of the Pappus. 4. Scale from the Involucre.—All more or less *magnified*.

Pub by S. Curtis, Walworth, Oct^r 1829

PEPEROMIA CLUSIÆFOLIA. CLUSIA-LEAVED PEPEROMIA.

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Class and Order.

DIANDRIA MONOGYNIA.

(Nat. Ord. — PIPERACEÆ.)

Generic Character.

Spadix cylindraceus, floribus undique tectus. *Stamina* duo. *Stigma* indivisum. *Bacca* monosperma. *Caulis* herbaceus. *Humb. et Kunth.*

Specific Character and Synonyms.

PEPEROMIA* *clusiæfolia;* foliis obovatis inferne attenuatis subauriculatis crassis, rubro-marginatis, margine recurvato brevi-petiolatis subvenosis, caule radicante rugoso, spicis terminalibus solitariis vel binis cylindraceis.

PIPER clusiæfolium. *Jacq. Collect. v. 3. p. 209. Ic. Rar. v. 2. p. 2. t. 213. Willd. Sp. Pl. v. 1. p. 159.*

PIPER marginatum. *Pl. Succ. Hort. Dyck. p. 24. (non Jacq.) Haw. Succ. Pl. Suppl. p. 3.*

PIPER magnoliæfolium. *Haw. Syn. p. 6. (non Jacq.)*

DESCR. *Stems* much branched, thicker than a swan's quill, red, and full of little transverse wrinkles, glabrous, as is every part of the plant, decumbent at the base, and every where, immediately at the base of the leaf-stalks, disposed to throw out roots. *Leaves* four to six inches long, thick, between coriaceous and fleshy, shortly petiolated, obovate, tapering downwards from near the middle, and somewhat auriculated at the very base, dark green above, obscurely veined,

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* Derived, as well as PIPER, from πιπερι, the Greek word for *Pepper.*

veined, concave and channelled; the margin dark red and recurved, especially towards the base, the extremity often emarginate, the underside is pale green, and the midrib is very prominent when it joins the petiole. *Peduncle* terminal, quite smooth and red, bearing one or two long cylindrical spikes, acute at the points. *Flowers* numerous, almost imbedded in the substance of the spadix. *Scale* pellucid, obtusely quadrangular, above which are placed, one on each side, the one-celled small anther, on a short filament: and between these is the pistil. *Germen* ovate: *Stigma* sessile, radiated: at the back is a long sharp membrane or crest. *Berry* oval with an acuminated point, quite protruded, standing out from the spadix.

This is one of the handsomest of the tribe, and one that appears to have been long cultivated in our stoves. It was introduced from the West Indies by Captain Bligh, in 1793, and flowers in May. The specimen here figured, was from a fine plant in the collection of the Edinburgh. Authors seem strangely to have confounded this with the Piper *obtusifolium* of Willdenow, which is figured by Plumier in his "Plantes d'Amérique, p. 53. t. 70, and still more accurately, by Trew, Ehret. p. 54. t. 96.; but the slightest inspection of those plates will at once shew how much that plant is at variance with the one here given.

Fig. 1. Flower with its Scale. 2. Pistil. 3. Stamen. 4. Berry.—*Magnified.*

W. J. H. del.

Pub. by S. Curtis, Walworth, Nov.r 1.1829.

Swan Sc.

COMBRETUM GRANDIFLORUM. LARGE FLOWERED COMBRETUM.

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Class and Order.

OCTANDRIA MONOGYNIA.

(Nat. Ord.—COMBRETACEÆ.)

Generic Character.

Calycis limbus infundibuliformis, 4-lobus, deciduus. *Pet.* 4—5, inter lobos calycis inserta. *Stam.* 8—10, biserialia; ex his 4—5, petalis opposita, altius inserta. *Germen* 2—5-ovulatum. *Stylus* exsertus, acutus. *Fructus* 4—5-pteri, 1-locul. 1-spermi, indehiscentes. *Semen* angulatum, pendulum. *D C.*

Specific Character and Synonyms.

COMBRETUM * *grandiflorum;* inerme, scandens, molliter hirsuta, foliis oppositis ovali-oblongis acutis integerrimis basi subcordatis, floribus densis secundis spicatis decandris, pedunculis oppositis, bracteis ovatis acutis.
COMBRETUM grandiflorum. *Don in Ed. Phil. Journ.* 1824, *p.* 347. *De Cand. Prodr. v.* 3. *p.* 21.

DESCR. *Stems* long, climbing, terete, downy, the down mixed with brown, patent hairs, the older ones woody, the younger herbaceous, bearing many branches of the same character as the parent stem. *Leaves* in rather distant, opposite pairs, from an inch and a half to five inches long, oval or oblong, or more frequently partaking of the character of the two, acute, scarcely mucronate at the point, slightly cordate at the base, nerved, entire at the margin, hairy

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* Its etymology unknown.

hairy on both sides, the hairs soft and white, appressed, paler beneath. *Petiole* scarcely half an inch long, thick, downy, flat, or slightly grooved above, beneath convex. The *color* of the leaves is a pale green, the smaller and younger ones, at the extremity of the branches, beautifully tinged with red. *Peduncles* axillary, occupying the extremity of the branches, downy, bearing a spike of large and richly-coloured, drooping flowers. In my *dried* native specimens, the upper leaves have fallen away, and then the inflorescence appears to be a compound brachiate *spike*. *Calyx* infundibuliform, springing from the top of the small, slender, pentagonal *germen*, large, five-angled, quinquefid, green, shining, the segments acute, brown at the tips, black within at the base. At the base of the germen is an ovate, acute, deciduous *bractea*. *Corolla* of five obovato-cuneate, shortly unguiculated *petals*, of a deep scarlet colour, marked with still higher coloured veins. *Stamens* ten; five inserted lower down upon the calyx, and opposite its segments, and five in the sinuses of the segments, much protruded. *Filaments* red. *Anthers*, small, roundish, yellow. *Style* filiform, acute, green, longer than the stamens. *Germen* one-celled, with five ovules.

This truly splendid stove plant was kindly communicated from the gardens of Wentworth House, by Mr. Cooper, in July last, as one which that able cultivator had received from Mr. Mackay, of the Clapton nursery, under the name of Combretum *grandiflorum*. The country from whence it came was not specified: but on comparing it with specimens of a Combretum brought to me by Miss Turner, niece of the late General Turner, from Sierra Leone, I find it to correspond with them in every particular. There can scarcely be a question, therefore, of its having been introduced from that country. The plant was discovered by Mr. G. Don, while collecting for that inestimable institution, the Horticultural Society, growing "near Freetown, and on the road to Congo," and is described in the Linnæan Transactions. The flowers have at first sight the appearance of those of a species of Ipomæa, being as large as in Ipomæa *Quamoclit*.

Fig. 1. Flower, from which the Corolla is removed, the Calyx being laid open to shew the Style and the insertion of the Stamens. 2. Petal. 3. *(magnified)* Section of the Germen.—Fig. 1. and 2. *nat. size*.

W.J.Hooker

Pub by S. Curtis. Walworth. Nov. 1827

PENTSTEMON GRACILIS. SLENDER PENTSTEMON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. 5-partitus. *Cor.* bilabiata, ventricosa. *Rudimentum* filamenti quinti superne barbatum. *Caps.* bilocularis.

Specific Character and Synonyms.

PENTSTEMON *gracilis;* caule herbaceo subglabro, foliis glabris glaucis radicalibus lanceolatis in petiolum attenuatis integerrimis, caulinis lineari-lanceolatis acuminatis parce serrulatis, pedunculis elongatis decussatis multifloris pedicellisque compositis calyce corollaque puberulis, filamento sterili barbato. *Graham.*

PENTSTEMON gracilis. *Nuttall N. Am. Gen. v. 2. p.* 522.

PENTSTEMON glaucus. *Graham in Ed. N. Phil. Journ. July,* 1829, *p.* 348.

DESCR. *Stem* erect, glabrous below, slightly pubescent towards the top. *Leaves* all glabrous, glaucous: root-leaves lanceolate, attenuated at the base into petioles shorter than themselves, quite entire; stem-leaves ovato- or linear-lanceolate, acuminate, dilated at the base, and amplexicaul, distantly serrulate, smaller upwards and passing into ovato-acuminate, entire bracteas at the base of the peduncles. *Inflorescence,* as is common in this genus, axillary, peduncles collected in the form of a panicle at the extremity of the stems, peduncles elongated, as well as the compound, filiform pedicels, calyx, and corolla glanduloso-puberulent. *Bracteas* ovate, acuminate, gradually becoming smaller from

from the leaves, and two placed opposite to each other at each subdivision of the peduncle. *Calyx* five-parted, segments, ovate, acute, spreading, the upper the broadest and shortest. *Corolla* rather pale lilac above, and, at the apices of its lobes, yellow, with purple veins below; upper lip of two, lower lip of three segments, upper surface of lower lip with long yellowish hairs. *Stamens* included; *filaments* ascending; *anthers* cordate, lobes spreading, purple on the outside, whitish within; *barren filament* dilated at its base, and adhering to the upper side of the corolla, above which it dips to the lower side of the corolla, along which it is laid, densely covered with yellow hairs on its upper side for more than half its length. *Pistil* rather shorter than the barren filament; *germen* conical; *style* straight; *stigma* small, entire.

The seeds of this species, which flowered at the Botanic Garden of Edinburgh, during the greatest part of the summer, were received from Mr. Drummond, on his return from the second expedition under Capt. Franklin to British North America. Graham.

This species is unquestionably the P. *gracilis* of Mr. Nuttall, who gave this name to specimens in my herbarium, from the Mandan territory, which were communicated by Mr. Bradbury; this being the same district in which Mr. Nuttall had gathered the individual plants that he has described in the work above quoted. Mr. Douglas found it common upon the Red River, about Brandon House, in the plains near that settlement, and Dr. Richardson near Carlton House. It has flowered in the Glasgow Botanic Garden, which yielded the specimen here figured.

Fig. 1. Root Leaf. 2. Lower Stem-Leaf, *nat. size.* 3. Pistil. 4. Stamen.—*Magnified.*

W.J.H. del.t

Pub. by S. Curtis Walworth. Nov.r 1829.

Swan

VICIA ARGENTEA. SILVER-LEAVED VETCH.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Cal. tubulosus, 5-fidus, aut 5-dentatus, dentibus duobus superioribus brevioribus. *Cor.* papilionacea. *Stam.* diadelpha. *Stylus* filiformis, angulum fere rectum cum ovario conficiens, superne et infra apicem subtus villosus. *Legumen* oblongum, 1-loculare, polyspermum. *Semina* hilo laterali ovali aut lineari. *D C.*

Specific Character and Synonyms.

VICIA * *argentea;* canescens, caulibus tetragonis, foliis cinereo-argenteis cirrho destitutis, foliolis oblongo-linearibus mucronatis, stipulis semisagittato-lanceolatis, pedunculis multifloris folio sublongioribus, floribus secundis laxiusculis, laciniis calycinis subæqualibus longitudine tubi, stylis elongatis subclavatis apice barbatis, leguminibus oblongis compressis tomentosis. *D C.*

VICIA argentea. *Lapeyr. Abr. Pl. Pyr. p.* 417. *Ejusd. Suppl. p.* 108. (excluding the Synonyms.) *De Cand. Prodr. v. 2. p.* 359.

VICIA variegata. *Spreng. Syst. Veget. v.* 3. *p.* 269. (not of DESF.)

DESCR. *Root* perennial, fusiform, slender, descending deep into the earth, and sending out a few branches and fibrous radicles. *Plant* every where clothed with soft, silky

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* From *Gevig*, in Celtic, according to THÉIS, whence ϐικιον, in Greek.

silky hairs. *Stems* many from the same root, ascending, branched, in the wild specimens compact, in the cultivated ones straggling, and, as well as the branches, angular, frequently exactly quadrangular, woody below, the rest herbaceous, often tinged with red. *Leaves* with eight to ten pair of alternate, elliptical, lanceolate leaflets, scarcely mucronate, terminated by an odd one, of a bluish-grey colour from the numerous silky hairs with which they are clothed, nearly sessile. Main *petiole*, or *rachis*, stout, grooved on the upper side; *stipules* large, silky, semisaggitate. *Peduncles* axillary, about as long as the leaves, having a secund *raceme* of several large flowers at the extremity. *Pedicels*, curved, silky. *Calyx* silky, reddish-white, streaked with green at the base, the teeth green. *Vexillum* broadly obovate, gradually tapering into the claw, yellowish-white, streaked with purple, most distinctly so in the inside. *Alæ* obtuse, of the same colour as the vexillum. *Carina* white, very blunt, purple at the extremity.

Of this extensive Genus, few are more worthy of cultivation than the present extremely rare species. It is supposed to grow in only one spot, namely, in the elevated pastures of *Massive de Castanèse*, in the Pyrenées, where it was first discovered by La Peyrouse. For the opportunity of cultivating it in our gardens, we are indebted to Mr. Arnott, who brought seeds from the Pyrenées to Dr. Graham: and the plant is now flourishing in the open border, in the Edinburgh Botanic Garden, whence the specimens here figured and described were kindly communicated by Dr. Graham. Its flowering season is June.

In the Supplement to his "Histoire Abrégée des Plantes des Pyrenées, M. de La Peyrouse has fallen into an error, in considering this plant the same with the Armenian V. *variegata* of Desfontaines, as any one may satisfy himself, by consulting the figure and description of the latter author, in the twelfth volume of the "Annales du Muséum d'Histoire Naturelle." The flowers are there represented considerably smaller, the plant longer and more straggling, (especially than the native V. *argentea*) and the leaves are terminated by branched tendrils.

Fig. 1. Flower. 2. Carina of the Flower. 3. Leaf.—*Magnified.*

W. J. H. del.

Pub. by S. Curtis Walworth Nov.1. 1829.

Swan Sculp.

Habenaria macroceras. Long-horned Habenaria.

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Class and Order.

Gynandria Monandria.

(Nat. Ord. — Orchideæ.)

Generic Character.

Cor. ringens. *Labellum* basi subtus calcaratum. *Glandulæ* pollinis nudæ, distinctæ (loculis pedicellorum adnatis v. solutis distinctis.) *Br.*

Specific Character and Synonyms.

Habenaria * *macroceras;* labello profunde tripartito, laciniis lateralibus (petalorumque interiorum bipartitorum lacinia inferiore) setaceis incurvis, cornu filiformi longissimo, antheræ loculis basi longe productis.
Habenaria macroceras. *Spreng. Syst. Veget. v. 3. p.* 692.
Habenaria macroceratitis. *Willd. Sp. Pl. v.* 4. *p.* 44.
Orchis Habenaria. *Linn. Sp. Pl. p.* 1331. *Amæn. Acad. v.* 5. *p.* 408. "*Sw. Obs.* 319. *t.* 9."
Satyrium erectum, foliis oblongis, petiolis vaginatis amplexantibus, spica terminali, nectariis longissimis. *Brown Jam. p.* 324.

Descr. *Tuber,* according to Swartz, single, oblong, and downy. *Stem,* in our plant, a foot high, the lower part clothed with the long, cylindrical, sheathing bases of the leaves, above more naked, and obscurely angular, pale green. *Leaves,* the lowermost small and oval, the middle ones four to five inches long, elliptical-oblong, rather obtuse

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* From *Habena, a thong,* or *the lash of a whip,* from the long narrow spur of most of the species.

tuse, waved, the upper ones again smaller, lanceolate, acute, with short sheaths, and gradually passing upwards into the bracteæ, all of them faintly striated, of a beautiful yellow green. *Bracteæ* lanceolato-acuminate, carinate and concave, longer than the germen. *Flowers* in a lax spike, pale greenish-white: the three *outer petals* or *segments* of the perianth ovate, greener than the rest of the flower, the upper concave, three-nerved, erect, and covering the anther; the two lateral reflexed: *two* innermost ones bipartite, the laciniæ unequal, divaricate; *upper* one linear-lanceolate, falcate, appressed to the inner margin of the upper and outer petal; the *lower* laciniæ setaceous, nearly two inches long, incurved. *Lip* deeply tripartite, lateral laciniæ spreading, setaceous, incurved, more than two inches long, the intermediate one an inch long, linear, retuse, projecting, having two flat, fleshy *tubercles* at the base above, while, below, depends a filiform, or slightly compressed *spur*, four to five inches long. *Anther* bifid, with the cells remote, projecting below into two horizontal, fleshy, spur-like processes, along the upper margin of which the membranous cell is continued which contains the stalk of the pollen-mass, and at the extremity of which is the naked, white *gland*. The two *glands* at the base of the anther are a continuation of the substance of the anthers: and at the back of each of the spurs of the anthers, and at their base, are two short, fleshy, white, processes, glandular at the extremity, and which may be considered two lateral, abortive anthers. *Pollen Masses* yellow, clavate; stalk long, its gland white. *Germen* much shorter than the spur, cylindrical, twisted.

Cultivated in the stove of the Glasgow Botanic Garden, from roots, sent by Dr. Distan, from Jamaica. It flowered in September of the present year, 1829. It may surely be reckoned among the most curious of the terrestrial Orchideous plants, and is rendered very striking by the great length of the spur, and the long, setaceous laciniæ of the lip and inner petals. I have lately received beautiful specimens from my valued friend and correspondent, Dr. Bancroft, of Jamaica.

Singular as is the present species in the magnitude of its spur, it is still far inferior to one which I have received, though not in a living state, from my often-mentioned friend, C. S. Parker, Esq., who gathered it in Demerara. The representation of this I destine for a future number of our Magazine.

Tab. 2947. *A.* Habenaria *macroceras* representing the upper part of the Plant, *nat. size*. Fig. 1. Inner Petal. 2. Anther, Stigma, and Lip. 3. Side view of an Anther, with the projecting Bases to the Cells, the two fleshy Glands, and abortive side Anthers. 4. Pollen Mass. 5. Lower Leaf.—Fig. 1 to 4 more or less *magnified*.

W. J. Hooker delt. Pub. by S. Curtis. Walworth. Nov.r 1. 1829. Swan Sc.

STANHOPEA INSIGNIS. SPLENDID STANHOPEA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Flores resupinati. *Petala* patentissima, reflexa, 2 interiora multo angustiora. *Labellum* liberum, sessile, ecalcaratum, saccato-concavum, appendiculatum, appendice tripartito, lobis lateralibus lineari-acuminatis incurvis, intermedio magno cordiformi. *Columna* superne alata. *Anthera* operculata. *Massæ Pollinis* lineari-clavatæ, dorso sulcatæ, pedicellatæ, pedicello glandulæ bilobulatæ, acuminatæ, pellucidæ affixo.

Specific Name and Synonym.

STANHOPEA insignis. *Frost MSS.*

DESCR. *Parasitic. Bulbs* several, clustered, ovate, sulcated, surrounded by many jagged long scales, and terminated each by a single, broadly lanceolate *leaf*, of a dark green colour, glabrous, having three principal nerves, and many parallel, less conspicuous ones; all very prominent on the under side. From the base of a young *bulb*, whose leaf is scarcely expanded, and which is covered by green, not yet withered *scales*, proceeds a *scape*, bearing two or more (sometimes four) *flowers*, of a most extraordinary size and appearance. This *scape* is four to six inches long, entirely clothed and concealed by thin, membranous, sheathing, convolute *scales*, the smallest at the base, the largest uppermost, where they form a sheathing *bractea*, concealing and enveloping the whole of the germen. *Flowers* pendent, hanging down perpendicularly over the side of the

the pot in which the plant grows, large and fragrant. *Petals* singularly reflexed, pale dingy yellow, the *outer*, (that which is, in the most usual position of an orchideous flower, the uppermost one), broadly ovato-lanceolate, concave, the margins reflexed; the *two lateral outer ones* broad, rotundato-ovate, very concave, acute, waved, all of the three striated externally, interiorly sparingly dotted with purple: two *innermost petals* broadly linear, rather acute, much waved at the margin, spotted with purple within. *Labellum*, from the position of the flower, pendent, sessile, spurless, narrow where it is affixed to the receptacle, of a thick and fleshy, almost waxy nature, between hemisphærical and globose, and hollow, hence saccate, and, as it were, inflated, the mouth oblong, contracted, the margins reflexed; of an almost white colour, spotted and blotched with dark purple: at the extremity of this, is what I call, from the extreme contraction of the base where it is set and fixed on to the labellum, an *appendage*, though it is, in reality, a continuation of the substance of the labellum: this *appendage* is nearly as large as the *lip* itself, deeply tripartite, the two lateral lobes or segments linear, acuminate, incurved, and slightly spirally so, the intermediate lobe very large, cordate, somewhat carinated at the back, acute at the point, the sides curved upwards, the margins reflexed; the whole of this is white, beautifully spotted internally with deep purple; without faintly tinged with yellow, and marked with a few and rather obscure spots. *Column* standing out parallel with the lip, free from adherence with the petals, slightly incurved, semi-cylindrical, emarginate at the extremity, below which, and principally confined to the upper half, there proceed two semi-circular and somewhat membranous wings; the whole white, or partially tinged with yellow, marked with innumerable small, and generally oblong purple spots. Within the notch, at the extremity of the *column* is fixed, the operculate, oblong, acuminate, yellow *Anther*, its extremity lying over an obscure concave *stigma*, and from beneath which, there protrudes the white, oblong, at one end acuminate, at the other rounded and bifid, *gland* of the stalks of the pollen masses. *Pollen Masses* two, linear-clavate, deep yellow, waxy, with a groove at the back of each, these are fixed to a rather short, white *pedicel*, and that again is attached, by its base, to the white gland above mentioned, which stands out beyond the point of the *Anther-case*. *Germen* four to five inches long, nearly cylindrical, scarcely twisted.

Among

Pub. by Curtis Walworth, Nov 1 [illegible]

van Sc

Among the Orchideous tribes, new wonders are continually presenting themselves to our observation and our study; more especially now, when the cultivation of them in the stoves of this country is brought to so high a degree of perfection, and when our increased intercourse with tropical regions has been the means of facilitating the acquisition of them. The present species, though it may be excelled by others in the brilliancy of its colours, ranks preeminent for its size, and the curious structure of the parts of its flower. It was obligingly communicated during the present month of October, from His Majesty's Royal Gardens at Kew, by JOHN FROST, Esq., with the request, that it might be called "STANHOPEA *insignis*, in compliment to the Right Hon. PHILIP HENRY, Earl STANHOPE, the noble President of the Medico-Botanical Society of London." Few plants, indeed, are more worthy to bear the name of so distinguished a nobleman.

In point of magnitude, I am not aware of any that approaches this, save the CERATOCHILUS *grandiflorus* of LODDIGES, Bot. Cabinet, n. 1414. The foliage and the bulbs too, bear a considerable affinity to this: but the structure of the labellum seems widely different, as far as can be judged from the figure of the entire flower: but there is unfortunately no analysis and no character, either of the genus or species, by which we might compare the more important distinguishing marks of the two plants.

It was introduced from South America some years ago to the Royal Botanic Gardens at Kew, where a drawing (which Mr. AITON obligingly allowed to accompany the specimen,) was taken, from the same roots, which flowered in October, 1827. An old scape, sent also, shows that four blossoms are sometimes borne at the same time upon the scape.

Whilst revising the proof sheet of this number of the Botanical Magazine, we have received from RICHARD HARRISON, Esq. of Aigburgh, near Liverpool, a scarcely less splendid Orchideous plant, than that which forms the subject of the above description. This is the ZYGOPETALON *Mackaii* of this work, tab. 2748; but having the flowers twice the size of those represented in that plate, and so much more brilliant in point of colour, that Mr. HARRISON and Mr. SHEPHERD were disposed to consider it a distinct species

species. The scape had nine or ten flowers upon it. Much of its beauty and grandeur is doubtless owing to the excellent management of Orchideous plants adopted in Mr. Harrison's collection.

Tab. 2944. Plant of Stanhopea *insignis*. Tab. 2945. Fig. 1. Single Flower, seen from its underside. 2. Side view of the Labellum. 3. Front view of the Column. 4. Summit of the Column, with the Anther-Case forced back, to show how the Pollen Masses lie. 5. Front view of a Pollen Mass. 6. Back view of ditto. Fig. 4, 5, 6, *alone magnified*.

½ of Nat: size.

LUDOVIA LATIFOLIA. BROAD-LEAVED LUDOVIA.

Class and Order.

MONŒCIA POLYANDRIA.

(Nat. Ord. — AROIDEÆ.)

Generic Character.

Spatha polyphylla. *Spadix* floribus masculis fœmineisque tectus. MASC. *Receptaculum* subcylindraceum, *stamina* plurima nuda vel perianthio multidentato tecta sustinens. FŒM. *Perianthium* subtetragonum, quadrifidum, subsessile, segmentis obtusis: *Filamenta* 4, longissima, sterilia. *Germen* 4-lobum, uniloculare, polyspermum. *Stigmata* 4, depressa. *Fructus* baccatus.

Specific Character and Synonyms.

LUDOVIA * *latifolia;* acaulis, foliis rotundato-flabelliformibus profunde bifidis plicatis, lobis incisis, spadice oblongo obtuso longitudine petioli.

LUDOVIA latifolia. *Pers. Syn. Pl. v. 2. p. 576.*

CARLUDOVICA latifolia. *Ruiz et Pavon, Fl. Per. et Chil. Prodr. p. 292? Loddiges, Bot. Cab. t. 1068.*

SALMIA latifolia. *" Willd. Mag. Amic. Nat. Cur. Berol. v. 5. 1811, p. 401." ? Spreng. Syst. Veget. v. 3. p. 772.*

DESCR. *Stem* none, or scarcely any: the *leaves* springing from the top of the root, which scarcely rises above the soil

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* This Genus was named CARLUDOVICA, by RUIZ and PAVON, in honor of CHARLES the 11th, of Spain, and his queen LOUISA. But such a word was wholly inconsistent with the rules for constituting Genera, and PERSOON changed it to LUDOVIA.

soil, intermixed at their very base with many dark brown, jagged, and much decayed scales. *Leaves* spreading, petiolated, one and a half to two feet long, and almost of the same breadth, membranaceo-coriaceous, between rotundate and flabelliform, plicated, and marked with many strong ribs, of which the central and two lateral ones (which are branched near the base,) are the strongest, and remarkably prominent on the underside; the extremity of the leaf is, as it were, truncated, bifid in the middle, with a narrow cleft, reaching about half way down, the lobes laciniated: the whole very much resembling, as Mr. Loddiges has well observed, the young leaf of the cocoa-nut. *Petiole* four to six inches long, thick, keeled at the back, grooved in the front, the two edges membranous and often jagged. From the centre of these leaves arises the *scape*, short, thick, about as long as the petioles, concealed by several large, oblong bracteas, or leaves of the spatha: for the uppermost, which only differ from the rest in being more delicate, constitute the spatha. *Spadix* two to three inches high, scarcely rising above the spadix, clothed with flowers of two kinds, male and female, as many apparently of the one as the other. The *Male Flower* consists of numerous small *stamens*, arising from a thickened, cylindrical, fleshy column or receptacle, by means of which they exceed the female flowers in length. *Filaments* very short: *Anthers* rounded, two-lobed. *Female Flower* nearly sessile, having only a short, fleshy base, consisting of a four-lobed, four-sided, fleshy perianth, whose lobes are erect, and very obtuse, within which, and shorter than it, is the four-lobed *germen*, each lobe having a depression which represents the *stigma*. A section of this germen exhibits one cell with four rounded, parietal receptacles, to which numerous *ovules* are attached. Between the perianth and the germen, and alternating with the lobes of the latter, are four very long, rather thick, fleshy filaments, or abortive stamens? The *fruit* I have not seen.

The habit of this plant, its foliage especially, is so similar to that of the Palms, that it is no wonder it has been considered to belong to that family. But an attentive examination of the structure of the flowers proves it to be one of the true Aroideæ. Five species of this Genus were described by Ruiz and Pavon, a sixth by Humboldt and Kunth, and two more by Poiteau in an excellent paper on the Genus, in the "Mémoires du Muséum." But with the exception of L. *funifera* of the latter, all are so imperfectly characterized,

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characterized, that we cannot say whether the present species rightly belongs to any of them. It inhabits Granada, in South America; was introduced by Mr. Loddiges, to whom the Edinburgh Botanic Garden owes the possession of it, whence our figure and description were taken in June, 1829. The native country of this is so remote from that of Peru, where Ruiz and Pavon found their Carludovica *latifolia*, that it is highly probable the two species will prove different. Humboldt's L. *palmata*, from the river Magdalena, and Poiteau's L. *subacaulis* almost equally agree with our plant, as far as can be judged from the short characters we have of them.

Tab. 2950. Plant, reduced to one quarter of the natural size. Tab. 2951. Fig. 1. Scape and Spadix; some of the Leaves of the Spatha being cut away: *nat. size*. 2. Portion of the Spadix, exhibiting a Male and a Female Flower. 3. Pistil and Sterile Filaments. 4. Lobe of the Pistil to show the Stigma. 5. Section of the Germen.—Fig. 2. to 5. more or less *magnified*.

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LUPINUS LITTORALIS. SEA-SHORE LUPINE.

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Class and Order.

DIADELPHIA DECANDRIA.

(Nat. Ord.—LEGUMINOSÆ.)

Generic Character.

Calyx profunde bilabiatus. *Corolla* papilionacea, vexillo lateribus reflexis, carina acuminata. *Stamina* monadelpha, vagina integra, antheris 5 parvis subrotundioribus, precocioribus, 5 oblongis, serioribus. *Stylus* filiformis. *Stigma* terminale, subrotundum, barbatum. *Legumen* coriaceum, oblongum, compressum, oblique torulosum. *Cotyledones* crassæ, per germin. in folia conversæ. *De Cand.*

Specific Character and Synonym.

LUPINUS *littoralis* * ; perennis, floribus verticillatis pedicellatis ebracteolatis, calycis labio utroque integro, foliolis 5—7 lineari-spathulatis utrinque sericeis, leguminibus 10—12-spermis transversim sulcatis, radicibus granulatis. *Douglas.*

LUPINUS littoralis. *Douglas in Bot. Reg. t.* 1198.

DESCR. " *Root* somewhat fusiform, with fleshy tubercles. *Stem* decumbent, silky. *Leaflets* five to seven, linear spathulate, both sides covered with silky hairs ; *stipules* subulate, their hairs longer than those of the leaves or stem. *Flowers* whorled; pedicels hirsute, double the length of the calyx. *Calyx* without bracteoles, both lips entire, nearly of equal length. *Vexillum* ovate, purple : *alæ* hatchet-shaped

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* The derivation of the word *Lupinus* is unknown : for the imagined connexion between the term *lupus*, a wolf, and the quality in this plant to devour the soil, is too absurd to deserve attention.

shaped, blue, double the length of the vexillum: *carina* pallid, ciliated, acute. *Pod* linear, covered with bristly, brown hairs; *seeds* linear, brown with black spots."

For the drawing of this interesting plant, which flowered in the Botanic Garden of Edinburgh, in June, 1829, I am indebted to my friend Dr. Greville, who sent it to me from thence. Not having, therefore, had an opportunity of seeing and describing a living individual, I have copied above, the words of its original discoverer, Mr. Douglas, who found it "growing abundantly on the sea-shore of North-West America, from Cape Mendoçino to Puget's Sound. Its tough, branching roots are serviceable in binding together the loose sand, and they are also used by the natives of the river Columbia as winter-food: being prepared by the simple process of drawing them through the fire until all their moisture is dissipated. The roots are then tied up in small bundles, and will keep for several months; when eaten, they are roasted on the embers, and become farinaceous. The vernacular name of this plant is *Somnuchtan:* and it is the Liquorice spoken of by Lewis and Clarke, and by the navigators who have visited the North-west coast of America.

"The *Sea-shore Lupine* is a hardy perennial, flowering from June to October, and propagated by cuttings, divisions of the roots, and seeds."

Fig. 1. Flower, before its complete expansion. 2. Vexillum. 3. Alæ. 4. Carina. 5. Stamens and Pistil.—All *magnified*.

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POTHOS MICROPHYLLA. SMALL-LEAVED POTHOS.

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Class and Order.

TETRANDRIA MONOGYNIA.

(Nat. Ord. — AROIDEÆ.)

Generic Character.

Spatha monophylla. *Spadix* cylindraceus, undique floribus tectus. *Perianthium* tetraphyllum. *Bacca* di- tetrasperma.

Specific Character.

POTHOS * *microphylla;* acaulis, foliis ovatis acutis costatis venosis nervoque parallelo versus marginem, petiolo subæque longo superne incrassato, spadice brevi-cylindraceo spathæ longitudine.

DESCR. *Roots* numerous, fleshy, simple, partly growing out of the soil in which the plant is cultivated. From the crown of these roots, among several purplish-brown scales, arise several leaf-stalks, which are glabrous, terete, two to four inches long, suddenly thickened, and paler coloured at the extremity, and bearing a *leaf* about its own length, ovate, acute, quite entire, subcoriaceous, deep green, having rather a strong and on both sides prominent midrib, from which branch off many veins, and united with a wavy nerve, which runs parallel with, but considerably within the margin. *Scape* slender, terete, exceeding the leaves in length, bearing a lanceolate, revolute, yellowish-green spatha below

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* The name is derived from *Potha*, which is the common appellation given to these plants in the island of Ceylon.

low the solitary, terminal spadix. This is scarcely more than half an inch long, deep purple, oblongo-cylindrical, obtuse. *Leaflets* of the *perianth* deep purple above, the rest pale green. *Stamens* four, scarcely longer than the calyx. *Filament* flat. *Anther* of two cells, roundish, pale reddish purple, presenting its back to the pistil. *Pistil* roundish. *Stigma* scarcely any.

Sent by Mr. Taite of the Sloane Street Nursery to the Glasgow Botanic Garden, where it flowered in the stove, in September, 1829. It is a native of Brazil, and has much affinity in general habit with P. *Harrisii* of Graham, in Hook. Exotic Flora, t. 211. But there the whole plant is much larger than in ours, the leaves much longer, by no means ovate, and the spadix is of considerable length.

Fig. 1. Flower. 2. Leaflet of the Perianth, with a Stamen. 3. Front view of a Stamen.—*Magnified.*

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PENTSTEMON PROCERUS. TALL PENTSTEMON.

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Class and Order.

DIDYNAMIA ANGIOSPERMIA.

(Nat. Ord.—SCROPHULARINÆ.)

Generic Character.

Cal. 5-partitus. *Cor.* bilabiata, ventricosa. *Rudimentum* filamenti quinti, superne barbatum.

Specific Character and Synonym.

PENTSTEMON *procerus;* caule erecto stricto subsimplici, foliis lanceolatis integerrimis, inferioribus petiolatis superioribus sessilibus subconnatis, floribus verticillato-spicatis, calycis segmentis membranaceo-laciniatis mucronatis, filamento sterili edentato.

PENTSTEMON procerus. *Douglas MSS. Graham in Edin. Phil. Journ. July,* 1829.

DESCR. *Stem* erect, straight, a foot to a foot and a half, or, in the wild specimens, two feet high, rounded, quite glabrous, but little branched. *Leaves* glabrous, lanceolate; the lower ones attenuated into petioles, the rest quite sessile, and almost connate, gradually smaller upwards: all of them quite entire, dark green, obliquely veined. *Flowers* in crowded, opposite racemes from the upper and smallest leaves, and standing so close to the stem, that the whole of them seem to form a more or less interrupted and verticillate *spike,* having numerous small, linear, bracteæ among the pedicels. *Calyx* so deeply divided that it may almost be called pentaphyllous, each segment or leaflet ovate, bordered by a white, membranous, and jagged margin, and there suddenly contracted into a long and narrow, recurved, pubescent point or mucro. *Corolla* small, but of a rich and varied purple color, glabrous: upper lip reflected, bifid; lower

lower bent down, trifid, with three pale spots at the base, and several rufous hairs. *Sterile Filament* slender, white, having a small tuft of reddish hairs on the upper side at the extremity, quite entire (toothless) at the base. *Germen* oval, purplish green. *Style* filiform, white above. *Stigma* simple.

The recent travels of Mr. Douglas and Mr. Drummond among the Rocky Mountains, and in the North-west part of America, have been the means of enriching our gardens with many highly beautiful species of the Genus Pentstemon; and in richness of colours the present will scarcely yield to any. It was found by the former of these two Naturalists in swampy and overflowed meadows, between Fort Vancouver and the Grand Rapids of the river Columbia, on the North side; and by the latter (to whom our gardens are indebted for the living plant) on the Rocky Mountains; and by Dr. Richardson about Carlton House.

It blossoms in June.

Fig. 1. Flower. 2. Segment of the Calyx. 3. Sterile Filament. 4. Pistil. 5. Section of the Germen.—All more or less *magnified*.

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MAXILLARIA SQUALENS. DINGY-FLOWERED MAXILLARIA.

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Class and Order.

GYNANDRIA MONANDRIA.

(Nat. Ord.—ORCHIDEÆ.)

Generic Character.

Perianthium patens, resupinatum. *Labellum* ecalcaratum. *Labellum* cum processu unguiformi columnæ articulatum, trilobum. *Foliola* lateralia *exteriora* basibus cum processu columnæ connata. *Pollinia 4,* basibus (vel dorso) connata, glandulosa.—Herbæ *parasiticæ, bulbosæ, Americæ meridionalis:* Racemi (*vel* scapi uniflori) *radicales.* Lindl.

Specific Character and Synonyms.

MAXILLARIA * *squalens;* racemo multifloro, labello trilobo lobis lateralibus incurvis, terminali late ovali incrassato.

XYLOBIUM squalens. *Lindl. in Bot. Reg.* (sub MAXILLARIA *Harrisoniæ.*) *t.* 897.

DENDROBIUM squalens. *Lindl. Bot. Reg. t. 732.*

DESCR. Parasitic. *Bulbs* several, oblong, dark green, in part sheathed with brown lacerated scales. *Leaves,* two from the summit of each bulb, eight to ten inches to a foot long, tapering below into a footstalk, strongly five-ribbed, with many parallel veins, ribs very prominent beneath. *Scape* from the base of the bulbs four to six inches high, clothed with ovate, concave, brown scales, and terminated by

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* From a fancied resemblance to the *maxillæ,* or jaws of an insect.

by a dense, thyrsiform raceme of many pale, dingy, yellowish, flesh-coloured flowers. These flowers are resupinate. The three outer segments ovato-oblong, nearly equal, the two lower ones decurrent: two inner ones lanceolate, within streaked with purple. *Lip* three lobed; faintly streaked with purple: side-lobes incurved, terminal one slightly deflexed, thick, fleshy, deep purple. *Column* semicylindrical, dotted with purple. *Anther* two-celled. *Pollen Masses* four, united at their back, yellow: *Gland* semilunate. *Germen* clavate, twisted, shorter than the lanceolate bractea.

A native of Brazil: communicated to the Glasgow Botanic Garden, where it flowered in the stove in the autumn of 1828, by the Horticultural Society. The flowers are much greener in the specimen figured in the Bot. Register. It is there first referred to DENDROBIUM; afterwards Mr. LINDLEY constituted a new Genus of it: but as it appears to me no way differing from MAXILLARIA, except in a slight difference in the place of union of the *Pollen Masses;* at the back in XYLOBIUM, at the base in MAXILLARIA.

Fig. 1. Single Flower: side view. 2. Lip. 3. Front view of a Flower, the Lip forced open. 4. 5. Back and front view of the Pollen Mass.—*Magnified.*

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